

Mill Street, Calne

Desk Study and Ground Investigation Report



Report for:

Cedar Care Developments Ltd

Reference:

P1225/CS-2381

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EXECUTIVE SUMMARY

Site Setting		
Site description and current land use	The site measures approximately 100m north to south and 85m east to west, occupying 0.8 ha. The northern area of the site is currently used as a car park which is still in use, and the southern area is occupied by a closed off building, previously a Co-op, and a car park. The River Marden runs through the centre of the site with two access bridges across joining the north and southern areas of site	
Environmental setting	Geology	Alluvium, underlain by the Stanford Formation.
	Hydrology and hydrogeology	Secondary A Aquifer. There is one licensed groundwater abstraction within 250m of the site, located 47m east. The site is not located within a Source Protection Zone. The nearest surface water feature is the River Marden which runs through the centre of the site. Areas of the site are within different Flood Risk Zones, ranging from Zone 1 to Zone 3.
	Mining	The site is not located within an area of historical coal mining.
	Radon	Low risk. Protection measures are not required.
	UXO	Low risk.
Site history	From the time of the earliest maps in the late 1800's, the site is shown to be partially developed on the northern and western areas and straddles a mixture of green space, residential/commercial units, and the River Marden runs through the centre of the site. The site remains relatively unchanged except for the addition of a few buildings, including a cinema, over the years. The first significant changes are shown on the 1975 maps, where the buildings along the northern boundary of the site are no longer present and between 1968 and 1975 the replacement of several smaller buildings in the south with one large building. After these additions the site remains relatively unchanged until present day	
Areas of potential concern at desk study stage	On-site	Made ground associated with previous site development.
	Off-site	- Historical electrical substations. - Potentially infilled former surface workings. - Historical above ground tanks. - Commercial/industrial activities including meat processing factory and fuel station.
Phase 2 Ground Investigation		
Ground conditions	Made ground was encountered within all of the exploratory locations across of the site with an approximate thickness of 1.0m. Beneath this, Alluvium comprising soft to firm clay and loose to dense sand and gravel was encountered to a maximum depth of 8.10mbgl. The alluvium was found to increase in thickness from north to south. The Stanford Formation was encountered across the entirety of the site beneath the Alluvium, comprising a firm becoming stiff sandy clay to depths greater than 18.45mbgl. The base of this unit was not encountered No visible or olfactory evidence of significant contamination was encountered during the ground investigation.	
Groundwater	Groundwater was encountered within the deeper cable percussive boreholes during the ground investigation, with a typical depth to groundwater strike of approximately 7.50mbgl. Recorded water levels after 20mins were noted to have risen by approximately 3-4m.	
Principal Findings and Conclusions		
Human health and plant growth	Elevated PAH and asbestos was found to be present within the made ground, which is also considered to be physically unsuitable as a growth medium within areas of soft landscaping. The natural soils are not considered to pose a risk to human health.	
Controlled waters	The risk to controlled waters is considered to be acceptably low, primarily owing to the lack of a significant contaminant leaching pathway.	

Gas protection	The site has a low ground gas generating potential and associated risks to future residents are low. No ground gas protection measures are deemed necessary.	
Potable supply pipework	Soil concentrations of benzo(a)pyrene have been found to be frequently elevated in the soils compared with pipework criteria. As such, given this and the thickness of made ground on-site, upgraded water supply pipework should be utilised.	
Waste	The made ground and natural soils are classified as non-hazardous waste. Asbestos was identified within 2Nº, however, quantification testing demonstrated that asbestos falls below the hazardous waste threshold of 0.1%.	
Engineering design	The cohesive soils have shown to be of high volume change potential and as a result will be susceptible to the influence of trees. Sulphate testing of selected soil samples indicates that a suitable design mix for concrete for buried structures is likely to be DS-4 AC-4. Due to the presence of deep Alluvium, which is frequently soft/loose, to approximately 5mbgl, it is likely that the proposed development will require piled foundations.	
Considerations and Recommendations for Further Work		
Considerations	A large portion of the site covered by the Co-op has not been investigated and could be concealing a thickness of made ground.	
	Human health/ plant growth	Provision should be made for all proposed soft landscaped areas to be capped with an imported clean topsoil/subsoil. A site specific Remediation Strategy should be prepared to detail remedial requirements for the site.
	Engineering	- The advice of specialist piling contractors should be sought to discuss the most cost-effective method of pile emplacement taking into account the ground and groundwater conditions described in this report. - For the assisted living apartments traditional strip/trench fill foundations may be viable. However, if this option is pursued it is recommended that further plot-specific investigation is undertaken to characterise the Alluvium local to this area in further detail and confirm the absence of soft/loose materials.
	General	- Discussions should be held with local landfill/soil waste treatment facilities to agree material classification/pre-treatment required for any soils to be disposed off-site as a result of proposed construction works. - Ground workers should remain vigilant for visible and olfactory signs of contamination following demolition of on-site buildings. - A site-specific health and safety plan should be prepared to inform on risks posed from the previous site use and mitigations for ground workers developing the site. - A copy of this report should be provided to the relevant regulatory authorities to confirm that they are in agreement with the report findings.

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1 INTRODUCTION

1.1 Contract Details

Following instruction from Cedar Care Developments Ltd (the 'client'), this report presents the results of a Desk Study and Ground Investigation undertaken for a proposed residential development at Mill Street, Calne (the 'site').

1.2 Proposed Development

Information presented to T&P Regeneration Ltd (T&P) indicates that the proposed development is intended to comprise the construction of a 60N^o room care home with 2N^o assisted living apartment blocks. Associated areas of communal and private soft landscaping with hard landscaped access and parking area also proposed. A development layout plan is included in Appendix A although it is understood this may be subject to change following completion of master planning.

1.3 Objectives

The purpose of the assessment is to establish the environmental and geotechnical conditions of the site to support a future planning application. This report also considers the likely foundation options appropriate to the proposed development, along with requirements for any related ground improvement works and/or remediation considered necessary to mitigate potentially unacceptable risks resulting from current and/or or historical land uses.

1.4 Scope of Works

The scope of works to fulfil the purpose of the assessment has included the following:

- Site walkover;
- Review of site specific environmental database information, where available, and publicly available information;
- Development of a preliminary site conceptual model and environmental risk assessment;
- Intrusive ground investigation comprising windowless dynamic sampling/cable percussive drilling;
- Collection of soil samples for chemical and geotechnical laboratory analysis;
- Assessment of chemical and geotechnical test results;
- Refinement of conceptual site model and update to environmental risk assessment; and,
- Presentation of geotechnical information to assist with foundation design.

1.5 Report Limitations

The recommendations, interpretations and conclusions of this report are based on the historical and current site conditions reported by database and mapping sources as supplemented with information gathered during on-site visits. No responsibility can be accepted for the accuracy of third party information including reference data contained within site specific database reports. Due to the inherent variability of ground conditions between exploratory hole positions, these conditions can only be interpreted and are accurate only for the date of the investigation works.

2 SITE INFORMATION

2.1 Site Location

Site location information is summarised in Table 2.1. A Site Location Plan is presented within Appendix A.

Table 2.1 Site Location Information

Information	Description
Full postal address	22-24 Mill Street Calne Wiltshire SN11 0HT
National Grid Reference (NGR)	399909, 171017

2.2 Site Description

A site walkover was undertaken by T&P on 2nd July 2024. A summary of pertinent site information gathered during the survey is provided in Table 2.2. A selection of photographs is provided within Appendix B.

Table 2.2 Summary of Site Information

Information	Description	
Site access	The southern area of the site is accessed via a double vehicular gate located off Mill Street. The inner courtyard of the southern area was accessed via a closed footpath from the southern area of the site. The northern area of the site is accessed via the car park entrance off The Pippin, which runs along the northern boundary.	
Site description including current site use and dimensions/area (ha)	The northern area of the site is currently used as a car park which is still in use, and the southern area is occupied by a closed off building, previously a Co-op, and a car park. The site measures approximately 100m north to south and 85m east to west, occupying 0.8 ha. The River Marden runs through the centre of the site with two access bridges across joining the north and southern areas of site.	
Site elevation and topography	The site elevation ranges between 71 and 72 metres Above Ordnance Datum (mAOD) and is generally level, with the exception of the small embankments either side of the stream running through the centre of the site.	
Ground cover (%)	The site ground cover comprises: - Soft landscaping (grass/planting) - 5% - Hard landscaping (tarmacadam/concrete) - 55% - Buildings - 40%	
Site boundaries	North Area	The northern area of the site has been left open to allow public access to the car park. Heras fencing and wooden panelling have been used to block access to the foot bridges across the river.
	South Area	The southern area of the site, car park and building, have been fenced off to prevent access with 2m wood panel fencing and heras fencing.
Surrounding land uses	North	The north of the site is bounded by residential housing and a car park for the local supermarket.
	South	To the south of the site is further residential housing, some commercial properties and St Mary's Church.
	East	The site is bounded by residential properties to the east.
	West	Residential housing and some commercial properties.

3 ENVIRONMENTAL SETTING

3.1 Introduction

Pertinent information has been gathered with reference to the available environmental database report, and public sources of information, including geological mapping, BGS online resources, Environment Agency databases and MAGIC website. A copy of the environmental database report is included within Appendix G.

Features identified in this section during the review of available desk study information which are deemed to require further consideration within this report are identified as Areas of Potential Concern (APCs) as discussed further within Section 5. Highlighted APCs are summarised on the APC plan included within Appendix A.

3.2 Ground Conditions

3.2.1 *Published Geology*

Alluvium superficial deposits are indicated to be present beneath the site.

The site is indicated to be entirely underlain by Oxfordian Age limestone of the Stanford Formation, which is understood to comprise '*Interbedded limestone, marl and mudstone*'.

3.2.2 *Mining Records*

Information regarding on- and off-site mining records included within the environmental database report has been reviewed. No mining records have been identified within 250m of the site. However, 3N^o surface ground workings have been identified within 250m of the site, the closest being a historical graveyard 17m to the south.

3.2.3 *Natural Geological Hazards*

Information regarding other geological hazards and associated hazard ratings included within the environmental database report has been reviewed. Geological hazards requiring further consideration (moderate hazard rating or above) are summarised in Table 3.1 and discussed later in this report.

Table 3.1 Summary of Geological Hazard Risk Assessment

Geological hazard	Hazard rating
Compressible ground stability	Moderate

3.2.4 *Surface Ground Workings*

Features identified which may have the potential to have been historically infilled, and thus may represent a risk to the site via lateral gas/groundwater contamination migration have been highlighted as APCs as shown on the plan included within Appendix A.

3.2.5 *Background Geochemical Data*

The site does not lie in an area where naturally occurring elevated concentrations of metalliferous elements are expected to be present.

3.3 Hydrogeology

The Environment Agency classifies the superficial Alluvium and the Stanford Formation as Secondary A aquifers. The site is not within or near a groundwater Source Protection Zone (SPZ).

Groundwater vulnerability is classified by the Environment Agency as high.

There is 1N^o record of a licensed groundwater abstraction within 250m, located 47m east of the site in 1990, related to process water.

With reference to national guidance¹, the sensitivity of groundwater as a potential receptor to contaminant impact beneath the site is considered to be high.

3.4 Hydrology and Surface Water

The nearest surface water feature is the River Marden which runs through the centre of the site.

The River Marden is assessed by the Environment Agency as “moderate” for ecological quality and “fail” for chemical quality, with an overall classification as “moderate” (2019 cycle).

There are no records of licensed surface water abstractions within 500m of the site.

With reference to the same national guidance, the sensitivity of surface water as a potential receptor to contaminant impact beneath the site is considered to be Moderate (M2).

3.5 Groundwater and Surface Water Discharges

There is 1N^o record of a licensed discharge consents within 250m of the site, located approximately 1m to the north-west associated with ‘sewage discharges – storm overflow’.

3.6 Pollution Incidents

There are 4N^o records pollution incidents within 250m radius of the site which occurred between 2001 and 2003. All of the recorded incidents are noted to have had ‘no impact’ or ‘minor impact’ with respect to land, water and air. Given the low impact recorded, the distance from the site and the time that has elapsed since the incidents occurred, no further assessment is considered to be required.

3.7 Flood Risk

The centre of the site, in proximity to the River Marden is located within a Flood Risk Zone 3. The southern area of the site is located within a Flood Risk Zone 2 and the northern area of the site is located within a Flood Risk Zone 1. As such, a flood risk assessment will be required to support a future planning application for the proposed development. The site is not in an area benefiting from flood defences.

With respect to groundwater flooding, the site is classified as being within an area with ‘limited potential for groundwater flooding to occur’. In consideration of the nature of the proposed development, site topography, underlying geology and hydrogeological regime, it is considered that the risk of groundwater flooding is low.

3.8 Radon

The site is located in an area where between 1% and 3% of homes surveyed are above the action level. As such, no radon protection measures will be required for new development.

3.9 Environmental and Ecological Designations

No designated environmentally sensitive areas are recorded within a 250m radius of the site.

¹ Annex 2 - Guidance for the Safe Development of Housing on land Affected by Contamination R&D66: 2008

3.10 Unexploded Ordnance

Based on a review of regional unexploded bomb/ordnance (UXO) risk areas published by Zetica, an independent database authority, the site is shown to be within an area classified as being at low risk of unexploded bombs.

3.11 Industrial Trades/Processes

Current industrial trades/processes identified in the environmental database report have been reviewed. Those requiring further consideration have been highlighted on the APC plan included within Appendix A and are discussed further within Section 5.

3.12 Historical Tanks

There are 3N° historical unspecified tanks identified nearby within the database report, located between 72 - 170m of the site which are shown to have been present between 1924 and 1997.

3.13 Historic Electrical Features

There are 7N° recorded historical electrical features within 200m of the site. All relate to electricity substations, with the nearest feature located approximately 91m north-west of the site.

3.14 Fuel Stations

There is 1N° active fuel station located 243m west of the site.

3.15 Contaminated Land

There are no sites which have been determined under Section 78R of the Environmental Protection Act 1990 as 'contaminated land' within 500m of the site.

3.16 Landfills and Waste Management Facilities

No historical or active landfill sites or other waste management facilities are recorded within a 250m radius of the site.

3.17 COMAH and Hazardous Substances

There are no records of Control of Major Accident Hazards (COMAH) sites or other hazardous substance consents within 250m of the site.

4 SITE HISTORY

The history of the site has been considered through a study of available Town Plans, County Series Plans and Ordnance Survey maps included within the environmental database report. Maps for the periods during and following the two World Wars: 1914-1918 and 1939-1945 are generally unavailable. A copy of the large-scale map series is provided in Appendix H.

A summary of the site history is provided below.

- From the time of the earliest maps in the late 1800's, the site is shown to be partially developed on the northern and western areas and straddles a mixture of green space, residential/commercial units, and the River Marden runs through the centre of the site. The site remains relatively unchanged except for the addition of a few buildings, including a cinema, over the years. The first significant changes are shown on the 1975 maps, where the buildings along the northern boundary of the site are no longer present and between 1968 and 1975 the replacement of several smaller buildings in the south with one large building. After these additions the site remains relatively unchanged until present day.
- The immediate area surrounding the site comprises a mix of land uses including green space, residential housing, schools, churches, a graveyard to the south, and a canal to the west, the closest point to the site being approximately 110m. By 1924 the green space to the north of the site has been developed into residential housing and allotments, and a large bacon factory has been developed. An addition a slaughterhouse was introduced to the northwest by 1968. In 1970 a pond connecting to Abberd Brook, a tributary of the River Marden, has been added approximately 126m to the east. By 1975 the allotments have been developed into a car park and an electrical substation is now located approximated 110m to the northwest of the site. By 1968, the meat products factory is no longer present. From this point the land use surrounding the site remains relatively unchanged.

On- and off-site historical features identified which are considered pertinent to this environmental assessment are summarised within the APC plan included in Appendix A and are discussed further in Section 5.

5 PRELIMINARY CONCEPTUAL SITE MODEL

5.1 Background

A risk assessment has been carried out under the governing terms set by Part 2A of the Environmental Protection Act 1990, statutory guidance entitled 'Contaminated Land Statutory Guidance (April 2012)' and in accordance with UK's risk assessment framework².

The conceptual site model for the site has been developed with consideration of national guidance³ which provides a framework for risk estimation and evaluation of plausible source-pathway-receptor linkages identified in the context of a proposed residential development.

5.2 Potential Contamination Sources

Potential on- and off-site sources of contamination have been identified in consideration of the review of desk-based information, as outlined in 2 Section and Section 3, in the context of on- and off-site current/historical activities. Potential contaminant sources identified within a 250m radius of the site are detailed in Table 5.1 and are presented in the APC plan in Appendix A.

Based upon the identified sources, the following potential contaminants have been identified:

- Metals.
- Hydrocarbons.
- Asbestos. However, it has been assumed that an asbestos survey will be carried out prior to demolition works, with any identified asbestos containing materials appropriately removed. As such, potential asbestos within the existing buildings has been discounted from further consideration and this report considers the potential presence of asbestos within underlying made ground only.
- Ground gases and vapours.

5.3 Exposure Pathways

With consideration of the site setting and proposed development, potentially active exposure pathways are included in Table 5.1.

5.4 Potential Receptors

Identified receptors with regard to the current site setting and future proposed development are included in Table 5.1. The following receptors have been discounted from further consideration:

- Construction workers – it is considered that risks during the construction works will be managed appropriately to mitigate short term risks through measures such as use of Personal Protective Equipment (PPE), hygiene practices and other on-site controls as outlined in their Construction Phase Health and Safety Plan and method statements/risk assessments.
- Current site users – in the context of the proposed development for the site, future residents represent a more sensitive receptor than current site users, and as such, consideration of potential risks to future residents will be suitably protective of current site users. As such, current site users will not be considered separately within have been identified.

² Land contamination risk management - <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.

³ Annex 4 - Guidance for the Safe Development of Housing on land Affected by Contamination R&D66. NHBC. 2008.

5.5 Preliminary Qualitative Risk Assessment

Table 5.1 highlights the source-pathway-receptor relationships or “contaminant linkages” that may potentially be active in consideration of both the site’s current use and proposed future use. Those contaminant linkages assessed as low or very low risk at this stage will not be considered further.

Table 5.1 Summary of Source-Pathway-Receptor Relationships

APC Nº	Source	Pathway (s)	Receptor	Consequence	Probability	Risk*	Comment
1	<u>On-site</u> Made ground associated with previous development.	Oral ingestion	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	-
		Dermal contact	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	-
		Dust migration/inhalation	Future residents, maintenance workers and off- site residents/workers	Medium	Low likelihood	Moderate/Low	-
		Gas / vapour inhalation/explosion	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	-
		Permeation into drinking water supplies	Future residents	Medium	Low likelihood	Moderate/Low	-
		Leaching/dissolution with vertical migration to groundwater	Groundwater	Medium	Low likelihood	Moderate/Low	-
		Leaching/dissolution with vertical migration to groundwater, and lateral migration in groundwater	Surface water	Medium	Low likelihood	Moderate/Low	-
		Overland flow	Surface water	Medium	Low likelihood	Moderate/Low	-
		Migration via existing service trenches	Groundwater/ surface water	Medium	Low likelihood	Moderate/Low	-
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater and subsequent volatilisation	Future residents, maintenance workers and off- site residents/workers	Medium	Low likelihood	Moderate/Low	-
		Uptake via root system	On-site flora	Medium	Low likelihood	Moderate/Low	-

APC N°	Source	Pathway (s)	Receptor	Consequence	Probability	Risk*	Comment
2	<u>Off-site</u> 3N° Historical electrical substations.	Lateral dust migration	Future residents and maintenance workers	Medium	Unlikely	Low	Associated contaminants typically exhibit low mobility. Intervening infrastructure has been present since construction which mitigates potential for shallow migration.
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater with subsequent direct contact	Future residents	Medium	Unlikely	Low	
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater with permeation into drinking water supplies	Future residents and maintenance workers	Medium	Unlikely	Low	
3	<u>Off-site</u> Potentially infilled former surface workings located 126m east.	Lateral dust migration	Future residents	Medium	Unlikely	Low	Ground cover likely to limit potential for dust generation.
		Lateral gas/vapour migration and inhalation	Future residents	Medium	Unlikely	Low	Given the localised nature of the workings, distance from site and cohesive nature of underlying geology, it is unlikely a plausible pathway exists.
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater with subsequent volatilisation and inhalation	Future residents and maintenance workers	Medium	Unlikely	Low	
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater with subsequent vegetable uptake/direct contact	Future residents	Medium	Unlikely	Low	
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater with permeation into drinking water supplies	Future residents	Medium	Unlikely	Low	

APC N°	Source	Pathway (s)	Receptor	Consequence	Probability	Risk*	Comment
4	<u>Off-site</u> 3N° Historical above ground tanks located off site.	Lateral dust migration	Future residents	Medium	Unlikely	Low	Ground cover likely to limit potential for dust generation.
		Lateral gas/vapour migration and inhalation	Future residents	Medium	Unlikely	Low	- Given the age of the tanks, the intervening surface water drainage and the cohesive nature of the underlying geology, it is unlikely a plausible pathway exists.
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater with subsequent volatilisation and inhalation	Future residents and maintenance workers	Medium	Unlikely	Low	
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater with subsequent vegetable uptake/direct contact	Future residents	Medium	Unlikely	Low	
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater with permeation into drinking water supplies	Future residents	Medium	Unlikely	Low	
5	<u>Off-site</u> Commercial/ industrial activities including meat processing factory and fuel station.	Gas / vapour inhalation/explosion	Future residents	Medium	Unlikely	Low	Given the cohesive nature of the soils encountered, which would limit lateral migration of gases, it is considered that the risks associated with ground gases are low.

*Where multiple receptors exist the risk classification is based on most sensitive receptor for conservatism.

5.6 Summary of Geohazards

Based on information presented within Section 3 and the anticipated geology beneath the site, the following geohazards have been identified which require further consideration:

- While identified as a low risk within the environmental database report it is considered that there remains a potential for shrink-swell behaviour of alluvial clays.
- Presence of mature trees and hedgerows along the River Marden and the eastern boundary;
- Possible made ground of unknown composition which is unlikely to be a suitable founding stratum for new buildings/structures; and,
- Low strength, compressible ground (Alluvium) – excessive settlement of foundations and infrastructure elements is possible.

6 SCOPE OF WORK

6.1 Summary of Fieldwork

An intrusive ground investigation was undertaken between 2nd and 4th July 2024 and is summarised in Table 6.1.

Table 6.1 Summary of Exploratory Locations

Hole ID	Exploratory Location Type	Investigation Method	Depth (mbgl)		Comment
			Min	Max	
WS01 – WS06	Borehole	Windowless sampler	5.00	5.00	Including <i>In situ</i> standard penetration testing (SPT) and installation of ground gas monitoring wells
BH01 – BH03	Borehole	Cable Percussive	15.00	18.45	Including <i>In situ</i> standard penetration testing (SPT)

All holes were logged in accordance with BS5930⁴.

An exploratory hole location plan is presented within Appendix A and the exploratory hole logs are presented as Appendix C.

6.2 Soil Sampling

Representative soil samples were collected for geotechnical and environmental analysis at appropriate intervals during the investigation, in line with the client's specification/Supervising Engineer's instruction, and in general accordance with requirements of BS5930, BS18400 and other UK standards as relevant.

6.3 Gas Monitoring

Monitoring wells were installed in accordance with the Supervising Engineer's instructions to enable gas monitoring to be undertaken if required at a later time. Full details of monitoring installations are provided on exploratory logs included in Appendix C.

⁴ BS 5930:2015+A1:2020. Code of Practice for Ground Investigations. 2020.

7 SUMMARY OF GROUND CONDITIONS

7.1 Encountered Strata

The geological sequence encountered during the ground investigation is summarised in Table 7.1 and described further in the following sub-sections. Ground conditions were found to broadly correspond with published geological information. Exploratory logs are included in Appendix C.

Table 7.1 Summary of Ground Conditions

Stratum	Top depth range (mbgl)	Base depth range (mbgl)	Exploratory holes	Area of site	General description/ comments
Made ground	0.00	0.10	All holes	General	Asphalt/concrete.
	0.15	0.30	WS03, WS05, WS06	General	Sandy gravelly CLAY with brick and limestone.
	0.10 – 0.20	0.70 – 1.10	BH01, BH02, BH03, WS01, WS02, WS04, WS05, WS06	General	Clayey gravelly SAND/ clayey sandy GRAVEL with brick, clinker and limestone.
Alluvium	0.30 – 1.10	1.00 – 6.50	BH01, BH02, WS02, WS03, WS04, WS05, WS06	General	Soft sandy silty CLAY and sandy gravelly CLAY.
	1.00 - 6.50	2.30 - 8.10	BH02, WS01, WS02, WS03, WS04, WS05, WS06	General	Loose to dense clayey gravelly SAND and clayey sandy GRAVEL.
Stanford Formation	2.30 – 8.10	>15.00 – >18.45	BH01, BH02, BH03, WS01, WS02, WS03	General	Firm to stiff sandy CLAY.

7.1.1 Made ground

Made ground was encountered within all of the exploratory locations across of the site with a typical thickness between 0.70 - 1.10m. Made ground was found to comprise asphalt, sandy clay, gravelly sand or sandy gravel, which included fragments of brick, clinker and limestone.

7.1.2 Superficial Geology – Alluvium

Soft to firm clay was encountered across the site underlying the made ground to depths ranging between 1.00 – 6.50mbgl. In general, this was underlain by loose to dense sand and gravel encountered to depths between 2.30 and 8.10mbgl across the site. The alluvium was found to increase in thickness from north to south.

7.1.3 Bedrock Geology – Stanford Formation

The Stanford Formation was encountered across the entirety of the site, comprising a firm becoming stiff sandy clay. The clay was encountered to depths greater 18.45mbgl. The base of this unit was not encountered.

7.2 Evidence of Contamination

No significant visible or olfactory evidence of any contamination was noted during the ground investigation.

7.3 Below Ground Structures and Obstructions

No below ground structures or obstructions were encountered during the ground investigation.

7.4 Groundwater

Groundwater was encountered within the deeper cable percussive boreholes during the ground investigation, with a typical depth to groundwater strike of approximately 7.50mbgl. Recorded water levels after 20mins were noted to have risen by approximately 3-4m.

Hydraulic connectivity between underlying shallow groundwater and the River Marden located on site is assumed.

8 SUMMARY OF LABORATORY ANALYSES

8.1 Geotechnical Testing

The geotechnical testing deemed necessary to adequately characterise the site from a geotechnical perspective in the context of the proposed development is summarised in Table 8.1.

Samples from the investigation were forwarded to a UKAS accredited laboratory. Complete results are provided in Appendix D.

Table 8.1 Summary of Geotechnical Testing

Test	Notes	Quantity
Moisture content	-	8 soils
Atterberg limits	-	8 soils
Triaxial compression	-	6 soils
Geochemical analysis BRE SD1 Suite	pH, sulphur, 2:1 water soluble sulphate, total sulphate	5 soils

8.2 Chemical Testing

The soil testing deemed necessary to adequately characterise the site from a contamination perspective in the context of the conceptual site model and proposed development is summarised in Table 8.2.

Samples from the investigation were forwarded to a UKAS and MCERTS accredited laboratory. Complete chemical results are provided in Appendix E.

Table 8.2 Summary of Chemical Testing

Test type	Quantity
Arsenic, Boron, Beryllium, Cadmium, Chromium, Lead, Mercury, Nickel, Copper, Zinc, Selenium, Vanadium, Phenols and US EPA 16 Polycyclic Aromatic Hydrocarbons.	8 soils
Asbestos screening/ID	4 soils
Asbestos quantification	1 soil

9 HUMAN HEALTH AND PHYTOTOXIC RISK ASSESSMENT

9.1 Introduction

A human health generic quantitative risk assessment (GQRA) has been undertaken in accordance with the UK regulatory framework and current guidance on assessment of risks presented by land affected by contamination⁵.

When considering phytotoxic risks, contaminants selected are those listed within Annex 3 of 'Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D66: 2008 Volume 2' as being 'phytotoxic'.

Where available, assessment values have been chosen based on the criteria within (in priority order) SGV Documents, ICRCL 59/83 phytotoxic threshold levels, Dutch RIVM Serious Risk Concentrations (SRC) for ecological receptors (amended for a UK soil of 10% clay and 2% soil organic matter) and US EPA Soil Screening Levels for plants.

9.2 Determination of Averaging Areas/Zones

For the purposes of investigation and assessment a site can be divided into zones based on historical uses or proposed end use. These zones can be further divided into averaging areas, which can be used to assess different soil types or different potential exposure pathways etc. for the purposes of risk evaluation. Each averaging area can be considered independently for human health exposure assessment.

Based upon the proposed end use of the site and the findings of the ground investigation it is proposed that a single zone with one averaging area is appropriate for the site as follows:

- Site wide – topsoil/natural soils.
- Site wide – made ground.

9.3 Human Health Screening Assessment

For each zone/averaging area, the analytical data has been evaluated directly against adopted screening levels⁶ for a 'Residential - without homegrown produce' for a retirement home end use. A copy of the screening assessment is included in Appendix E.

Table 9.1 summarises the results of the screening assessment where soil exceedances against adopted screening levels have been identified.

Table 9.1 Summary of Human Health Soil Screening

Determinant	Screening level (mg/kg) ¹	Screening level source	Min (mg/kg)	Max (mg/kg)	Nº of exceedances
Topsoil and Natural Soils					
Benzo(a)anthracene	11	S4UL	0.05	47	1 of 4
Chrysene	30	S4UL	0.05	45	1 of 4
Benzo(b)fluoranthene	3.9	S4UL	0.05	61	1 of 4

⁵ Environmental Protection Act 1990.

Contaminated Land Statutory Guidance (April 2012).

Land contamination risk management - <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.

⁶ The LQM/CIEH S4ULs for Human Health Risk Assessment. 2015.

SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. CL:AIRE. 2013.

Determinant	Screening level (mg/kg) ¹	Screening level source	Min (mg/kg)	Max (mg/kg)	N° of exceedances
Benzo(a)pyrene	5.3	C4SL	0.05	49	1 of 4
Dibenz(a,h)anthracene	0.31	S4UL	0.05	7	2 of 4
Made Ground					
Benzo(b)fluoranthene	3.9	S4UL	0.05	5.70	1 of 4
Dibenz(a,h)anthracene	0.24	S4UL	-	0.36	1 of 4

1. Category 4 Screening Level (C4SL) based on 1% Soil Organic Matter (SOM). SP1010 Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Rev 2. CL:AIRE. 2014; Suitable 4 Use Level (S4UL) based on 1% SOM, where appropriate, as a conservative assessment. (The LQM/CIEH S4ULs for Human Health Risk Assessment (Land Quality Management, 2005). 'Residential with homegrown produce' end use.

In addition, positive asbestos results were encountered in 2N° made ground samples, with amosite identified in WS04 and chrysotile in WS06, both in the form of free fibres. Quantification analysis undertaken on the sample from WS04 revealed free fibres <0.001%.

The distribution of elevated soil concentrations is summarised within Table 9.2. Those determinants identified as Contaminants of Potential Concern (COPC) are discussed further in Section 9.5. All other contaminant concentrations were found to be either below the adopted screening levels or otherwise professionally judged to be below levels of concern.

Table 9.2 Summary of Elevated Soil Concentrations

Exploratory location	Location	Depth (mbgl)	Stratum	Contaminant of potential concern (COPC)	Soil Concentration (mg/kg)
WS03	Northern	0.2 - 0.3	Made Ground	Benzo[b]fluoranthene	5.70
WS04	Southern	0.30 – 0.40	Made Ground	Asbestos	<0.001%
				Dibenz[a,h]anthracene	0.36
WS06	Central	0.30 – 0.40	Made Ground	Asbestos	n/a
WS06	Central	1.20 - 1.30	Alluvium	Benzo[a]anthracene	47
				Chrysene	45
				Benzo[b]fluoranthene	61
				Benzo[a]pyrene	49
				Dibenz[a,h]anthracene	7.0

9.4 Phytotoxic Screening Assessment

A summary of elevated soil concentrations compared with adopted phytotoxic screening levels is provided in Table 9.3. A copy of the screening assessment is included in Appendix E.

Table 9.3 Summary of Phytotoxic Soil Screening – Made Ground

Determinant	Adopted screening level (mg/kg)	Min (mg/kg)	Max (mg/kg)	N° of exceedances
Topsoil and Natural Soils				
Boron	3	0.03	4.0	1 of 4
Made Ground				
Boron	3	0.03	3.50	2 of 4

Concentrations of boron were found to exceed the adopted phytotoxic screening values in 2N° of the 4N° samples tested from natural ground and 1N° of the 4N° samples tested from made

ground. The distribution of elevated boron concentrations is presented within Table 9.4 and the significance of these concentrations is discussed below.

Table 9.4 Summary of Elevated Soil Concentrations

Exploratory location	Location	Depth (mbgl)	Stratum	Contaminant of potential concern (COPC)	Soil Concentration (mg/kg)
WS02	North	0.8 - 0.9	Alluvium	Boron	3.5
WS04	Central	0.3 – 0.4	Made Ground	Boron	4.0
		1.1 - 1.2	Alluvium	Boron	3.5

9.5 Discussion

9.5.1 Made Ground

Statistical analysis of the elevated PAHs encountered within the made ground has not been carried out due to the limited size of the dataset and the physical unsuitability of the made ground. In any case, asbestos was found to be present within two of the three samples tested and the made ground is also considered to be physically unsuitable as a growth medium to remain *in situ* within areas of soft landscaping. Therefore, remedial measures will need to be implemented which are discussed further in Section 9.6.

9.5.2 Topsoil and Natural Ground

The exceedances encountered within WS106 are significantly elevated with respect to PAHs, which would not usually be encountered in deep natural soils (1.20-1.30mbgl) without any evidence of leaching or disturbance in the ground above. Given the concentrations of PAHs in the made ground above are two orders of magnitude lower, the elevated results are considered highly likely to be due to cross contamination, probably due to a piece of tarmac dropping into the borehole from the surface as part of the drilling process, and therefore unrepresentative of the natural soils *in situ* at this depth. As a result, this anomalous exceedance has been discounted from further consideration and given the absence of any other exceedances, the natural soils are not considered to pose a risk to human health.

An elevated soil concentration of boron has been encountered within 1N^o natural soils when compared with the assessment criteria, although the exceedance is marginal. Phytotoxic screening criteria are noted to be very conservative, with many based on agricultural yields rather than general/decorative planting. As such, the soils on site are considered to pose a low risk to existing and future flora. However, it is recommended that the advice of the project landscaping consultants is sought to confirm this.

9.6 Development Implications

Where on-site soils may be chemically and/or physically unsuitable to remain beneath areas of soft landscaping, provision of a suitable thickness of capping soils may be required. The cover thickness is anticipated to be up to 300mm in common areas of soft landscaping.

A Remedial Strategy should be produced to detail the final requirements as necessary once the development layout and landscaping plans are finalised.

10 CONTROLLED WATERS RISK ASSESSMENT

10.1 Overview of Hydrogeological Setting

The underlying Alluvium and the Stanford Formation are designated as a Secondary A Aquifer. The site is not recorded to lie within an SPZ. There is a licensed groundwater abstraction 47m from site.

The nearest surface water feature is the River Marden which runs through the centre of the site.

Based on the site topography, groundwater flow is interpreted to be towards the River Marden.

It is considered possible that groundwater within the underlying Secondary A aquifer may be in hydraulic connectivity with nearby surface water features. Furthermore, it is plausible that there may be connection via on-site surface water drainage.

On the basis of the above, the sensitive Controlled Waters receptors relating to the site are considered to be:

- Groundwater in Alluvium and the Stanford Formation (Secondary A Aquifer); and,
- River Marden.

10.2 Risk Evaluation

The ground investigation identified site wide made ground typically comprising slightly sandy gravel, with gravel of brick, clinker and limestone. No significant visual or olfactory evidence of gross contamination was observed. Furthermore, although leachate testing was not undertaken as part of the assessment, the encountered soil concentrations of mobile contaminants (Polycyclic Aromatic Hydrocarbons) are considered to be below levels of concern, with the exception of the elevated levels within WS106, however this is likely due to cross contamination of the samples arising from surface tarmac as detailed in Section 9.5.2. It is also noted that in all other cases contaminant concentrations typically decreased with depth, indicating a negligible leaching pathway.

As such, while a theoretical low level contaminant source may be present within the made ground, the risk to controlled waters is considered to be acceptably low owing to the low soil concentrations encountered within the made ground, and lack of an observed significant vertical leaching pathway. No further work is considered to be required, although a watching brief for unexpected contamination should be maintained during demolition/construction.

11 GAS/VAPOUR RISK ASSESSMENT

11.1 Overview of Conceptual Model

Through the development of the preliminary conceptual model, the following potential sources of ground gas/vapour have been identified as requiring further consideration:

- Made ground associated with former on-site development.

The ground investigation identified made ground across the site, comprising slightly sandy gravel with occasional clinker and brick. No significant organic or putrescible material was encountered. In consideration of the ground investigation findings, no additional potential sources of ground gas have been identified on-site.

11.2 Discussion and Risk Evaluation

The site conceptual model identified made ground as a potential source of ground gas, the presence of which on-site was confirmed during the ground investigation. However, no evidence of significant organic content or putrescible material, including peat was observed. Therefore, it is considered that the site has a low ground gas generating potential and that risks to future residents associated with ground gases are low. No ground gas protection measures are deemed necessary within future development.

12 POTABLE SUPPLY PIPEWORK RISK ASSESSMENT

Water industry guidance⁷ states that only organic contaminants pose a potential risk to plastic pipe materials. The UKWIR report provides threshold values for polyethylene (PE) and polyvinyl chloride (PVC) pipes for the organic contaminants of concern. The results are summarised in Table 12.1 with exceedances highlighted in **bold**.

Table 12.1 Summary of Soil Screening Against UKWIR Criteria

Determinant	Pipe material Generic Assessment Criteria (mg/kg)		Min (mg/kg)	Max (mg/kg)
	PE	PVC		
Extended VOC suite ²	0.5	0.125	<0.1	3.4
BTEX + MTBE ¹	0.1	0.03	-	-
SVOCs TIC by purge and trap or head space and GC-MS with TIC (aliphatic and aromatic C ₅ -C ₁₀) ¹	2	1.4	-	-
Phenols ¹	2	0.4	1.00	1.00
Cresols and chlorinated phenols ^{1 3}	2	0.04	-	-
Mineral oil C ₁₁ -C ₂₀ ¹	10	Suitable	-	-
Mineral oil C ₂₁ – C ₄₀ ¹	500	Suitable	-	-
Corrosive (conductivity, redox and pH) ¹	Suitable	Suitable	-	-

1. Determinant not tested.

2. Based upon recorded BaP concentrations.

3. Total Monohydric Phenols – Limit of Detection (LOD) is 5.0mg/kg. All speciated phenols are below LOD of 1.0mg/kg.

Given no evidence of visual or olfactory evidence of hydrocarbon or solvent based contamination was encountered on-site during the ground investigation most of the determinants of concern in relation to water supply pipework were not tested.

Soil concentrations of benzo(a)pyrene (BaP) have been found to be frequently elevated in the made ground and natural soils compared with the pipework criteria. As such, given this and the thickness of made ground on-site, upgraded water supply pipework should be utilised.

⁷ Guidance for the selection of water supply pipes to be used in brownfield sites (UK Water Industry Research Limited (UKWIR) - Ref: 10/WM/03/21) - 2010

13 REFINED CONCEPTUAL SITE MODEL

13.1 Overview

Following completion of the ground investigation, collection and interrogation of site data with consideration of the outcome of generic quantitative risk assessment discussed in preceding sections of this report, the conceptual site model has been revised.

13.2 Sources

Further to completion of ground investigation, the sources identified within the preliminary conceptual model to require further consideration include:

- On-site - Made ground associated with previous development.

No further potential sources of impact were identified during the subsequent ground investigation works.

13.3 Risk Evaluation

Those SPRs identified within Section 5 as presenting a moderate/low or moderate risk have been further interrogated in accordance with UK national guidance and regulatory framework⁸ following completion of ground investigation and risk assessment. Table 13.1 presents the revised SPRs with associated classification of risk as appropriate following re-evaluation of risks.

⁸ Annex 4 - Guidance for the Safe Development of Housing on land Affected by Contamination R&D66: 2008.
Land contamination risk management - <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.

Table 13.1 Revised Source-Pathway-Receptor Relationships

APC Nº	Source	Pathway (s)	Receptor	Consequence	Probability	Risk*	Comment
1	On-site Made ground associated with previous development.	Oral ingestion	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	Elevated PAH, asbestos present and poor physically suitability.
		Dermal contact	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	
		Dust migration/inhalation	Future residents, maintenance workers and off-site residents/workers	Medium	Low likelihood	Moderate/Low	
		Gas / vapour inhalation/explosion	Future residents and maintenance workers	Medium	Unlikely	Low	No sources of ground gas identified.
		Permeation into drinking water supplies	Future residents	Medium	Low likelihood	Moderate/Low	Upgraded potable water supply pipework required.
		Leaching/dissolution with vertical migration to groundwater	Groundwater	Medium	Unlikely	Low	No evidence of a leaching/ contaminant migration pathway.
		Leaching/dissolution with vertical migration to groundwater, and lateral migration in groundwater	Surface water	Medium	Unlikely	Low	
		Overland flow	Surface water	Medium	Unlikely	Low	
		Migration via existing service trenches	Groundwater/ surface water	Medium	Unlikely	Low	
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater and subsequent volatilisation	Future residents, maintenance workers and off-site residents/workers	Medium	Unlikely	Low	
		Uptake via root system	On-site flora	Medium	Low likelihood	Moderate/Low	Elevated concentrations of phytotoxic elements within made ground soils.

*Where multiple receptors exist the risk classification is based on most sensitive receptor for conservatism.

14 PRELIMINARY WASTE ASSESSMENT

14.1 Waste Hierarchy

In line with the requirements of the Waste Framework Directive, the principles of the “waste hierarchy” should be applied to management options for on-site generated wastes, giving priority to the prevention of waste in the first instance, before considering re-use, recycling, recovery and lastly disposal. Principal considerations are set out in subsequent sections, although it is recommended that advice of a geo-environmental/waste specialists is sought at an early stage in the development process to ensure opportunities for minimisation of waste volumes are maximised.

14.2 On-site Re-Use of Materials

It may be possible to demonstrate through application of the CL:AIRE Definition of Waste Code of Practice (DoW CoP) that site won excavated soils are not classified as waste, and in doing so, permit this material to be re-used as part of proposed site redevelopment works. The DoW CoP may also apply to source segregated material arising from demolition activities. In determining the suitability of this approach, early consideration should be given to being able to demonstrate a specific planning requirement for the re-use of the excavated material. It is noted this approach cannot be applied retrospectively.

It should be noted that on-site re-use of “uncontaminated soil or other naturally occurring material” excavated as part of construction works for the purposes of construction is excluded from waste regulation.

Alternative mechanisms for on-site re-use of soils or aggregate may also be appropriate, on a site specific basis, depending on the volume/nature of the materials, and their intended use, such as:

- Waste exemptions under the Environmental Permitting (England and Wales) Regulations 2010, which are operations which are exempt from requiring permits, providing certain conditions are met. This typically applies to small volumes of non-hazardous soils although may also apply to other material types.
- Environmental permit under the Environmental Permitting (England and Wales) Regulations 2010 (standard or bespoke depending on the material and the activity).
- WRAP Aggregates Quality protocol⁹ for the production and use of aggregates from inert waste, providing certain criteria are met.

14.3 Waste Disposal to Landfill

When waste is intended for disposal at a suitably licensed landfill site it is necessary for the waste producer (i.e. the developer or consultant on their behalf) to have completed a basic waste characterisation assessment, including:

- Description of the waste;
- List of Waste (LoW) code or codes if mixed waste;
- Determine the chemical composition to identify if waste has hazardous properties or Persistent Organic Pollutants (POPs) are present;
- Determination of hazardous properties;
- Waste Acceptance Criteria (WAC) testing (if required) to determine landfill acceptance.

⁹ Aggregates from inert waste. End of waste criteria for the production of aggregates from inert waste. WRAP.

Relevant information on the above can be found in WM3¹⁰ and is discussed further in the context of ground investigation findings in subsequent sections.

It should be noted that alternative off-site disposal routes may be available, such as recycling/treatment facilities and that in these instances, waste classification would not be appropriate. Instead, it will be necessary to confirm with the destination facility that the material complies with their permit criteria. Further testing in addition to the available ground investigation data may be required by them.

14.3.1 Waste Classification

A preliminary waste classification exercise has been undertaken with reference to available ground investigation data. Hazardous properties of the soils have been assessed using the HazWaste program. A copy of the HazWaste report is included in Appendix F. Results have been assessed as non-hazardous.

In consideration of the desk study findings and site conceptual model, and chemical results, POPs are considered unlikely to be present in on-site soils at concentrations sufficient to warrant consideration.

Asbestos was identified in sample WS04 0.30-0.40 and WS06 1.20-1.30. Quantification testing was undertaken on the sample from WS04. Quantification testing demonstrated that asbestos falls below the hazardous waste threshold of 0.1% and therefore this material is not considered to be a hazardous mixed waste.

14.3.2 Landfill Waste Acceptance

If a waste classification assessment determines that disposal to landfill is the appropriate option for the waste then WAC testing must be undertaken for wastes destined for inert, stable non-reactive hazardous or hazardous classes of landfill. WAC testing may not be required if the material falls into the list of waste material identified in The Landfill Directive assumed to fulfil the criteria for inert waste, as detailed in Article 2(e) of the Landfill Directive. This includes soils and stone with an EWC code 17 05 04 but excludes topsoil, peat and soil from contaminated sites. Additionally if waste has been classified as non-hazardous and is going to be disposed of to a non-hazardous landfill rather than an inert non-hazardous landfill then WAC testing may not be required. In all cases consultation with the receiving facility to confirm testing and acceptance of waste classification prior to disposal is advised.

14.3.3 Landfill Tax

Unless specifically exempt landfill tax applies to disposal of material at a landfill that's covered by a permit under specific environmental legislation and at any unauthorised waste site. Currently this tax rate is set at £103.70/tonne (2024/2025).

There are some circumstances where material placed within a landfill cell is excepted from the charge to Landfill Tax, including use of material for creation of capping, drainage or otherwise meets conditions of other Landfill Tax exemptions e.g. dredgings, mining and quarrying materials.

A lower rate of landfill tax set at £3.30/tonne does apply to less polluting material listed in the landfill tax (qualifying material) order 2011¹¹, including naturally occurring rocks and soils, excluding topsoil (group 1) and ceramic or concrete (group 2).

¹⁰ Guidance on the classification and assessment of waste - Technical Guidance WM3. Environment Agency 2015.

¹¹ Landfill Tax (Qualifying Material) Order 2011 can be found at <http://www.legislation.gov.uk/ukSI/2011/1017/contents/made>

14.4 Recommendations

- Waste management options should be considered in line with the Waste Hierarchy, with priority placed on prevention, re-use, recycling and recovery in order to reduce off-site disposal volumes. Sorting and segregation of excavated soils/materials may also enable reduction in off-site disposal volumes.
- In the event that off-site disposal of surplus excavated soils to landfill is intended, chemical results should be supplied to the receiving facility to confirm they will be able to accept the material. Supplementary testing may be required by the receiving facility, including WAC testing, to confirm the preliminary waste characterisation assessment and to ensure WM3 requirements have been met.
- Should on-site made ground/contaminated natural soils be intended for re-use within the proposed development, it may be possible to demonstrate this material is not waste through preparation of a Materials Management Plan (MMP) to fulfil the requirements of the CL:AIRE DoW CoP. It is recommended that soil re-use opportunities are considered in the context of the development earthworks strategy, cut/fill and remedial strategy (if appropriate) with input from a specialist geoenvironmental consultant.

15 COMMENTS ON ENGINEERING DESIGN

15.1 General

Eurocode 7 (Section 2)¹² advocates the use of geotechnical categorisation of the proposed structures to establish the design requirements. Information presented to T&P indicates that the proposed development is to comprise the construction of a care home and assisted living apartment blocks.

In consideration of the available information on the development proposals, for the purposes of this investigation the proposed structures have been classified as follows:

- Geotechnical category 1: Small and relatively simple buildings (houses) with strip or piled foundations, roads, pavements, car parks, retaining walls below 2m, small excavations for drainage works, with the proposed housing development considered to be within this category.

15.2 Summary of Geotechnical Parameters

Stratum thicknesses and geotechnical parameters for the strata encountered in the investigation are summarised in the following sections. The level of confidence in the derived parameters is provided in Table 15.1.

Table 15.1 Confidence Levels

Key	Description
value	High level of confidence - based on information from investigation.
value	Medium level of confidence - based on published data.
value	Low level of confidence – more data required if parameter to be used in design.

15.2.1 Made Ground

The thickness of the made ground is described in Table 15.2.

Table 15.2 Summary of Geotechnical Parameters – Made Ground

Parameter	Units	Min	Max	Design	Comments
Top Depth	mbgl	GL	GL	GL	-
Base Depth	mbgl	0.30	1.10	1.00	-
pH	-	8.5	10	8.5	-
Water soluble sulphate (SO ₄ ²⁻)	mg/l	54	1000	1000	-
Note: The variability of the Made Ground strata is such that derivation of geotechnical parameters is considered to be generally inappropriate and potentially misleading.					

15.2.2 Alluvium

The design thicknesses and geotechnical parameters for use in the Alluvium are described in Table 15.3.

¹² BS EN 1997 – Part 2. Geotechnical Design.

Table 15.3 Summary of Geotechnical Parameters – Alluvium

Parameter	Units	Min	Max	Design	Comments
Top Depth	mbgl	0.30	1.10	1.00	-
Base Depth	mbgl	1.00	8.10	Varies	-
Moisture Content	%	15.8	24.0	24	-
Liquid Limit	%	35	83	80	-
Plastic Limit	%	21	28	25	-
Plasticity Index	-	14	56	55	-
% passing 425µm sieve	%	62	100	-	-
Modified Plasticity Index	-	8.7	56	>40	Based on current NHBC guidance, results are indicative of soils of a high volume change potential
Undrained shear Strength in clay	kPa	2	30	16	Determined from hand shear vanes. Indicative of clay of soft strength
Standard Penetration Resistance in granular soils	N Value	6	23	15	Indicative of loose to medium density.
pH	-	8.7	9	-	-
Water soluble sulphate (SO ₄ ²⁻)	mg/l	21.1	909	909	DS-4 AC-4
Acid soluble sulphate (SO ₄ ²⁻)	%	0.079	0.235	0.235	
Total Sulphur	%	0.046	1.01	1.01	
Total Potential Sulphate	%	0.138	3.03	3.03	
Oxidisable Sulphide	%	0.06	2.8	2.8	

15.2.3 Stanford Formation

The design thicknesses and geotechnical parameters for use in the Stanford Formation are described in Table 15.4.

Table 15.4 Summary of Geotechnical Parameters – Stanford Formation

Parameter	Units	Min	Max	Design	Comments
Top Depth	mbgl	2.30	8.10	2.60	-
Base Depth	mbgl	5.00	18.45	>18.45	Base not proven
Moisture Content	%	22.3	40.8	31	-
Liquid Limit	%	39	94	80	-
Plastic Limit	%	20	35	25	-
Plasticity Index	-	18	59	55	-
% passing 425µm sieve	%	37	100	N/A	-
Modified Plasticity Index	-	6.6	59	>40	Based on current NHBC guidance, results are indicative of soils of a high volume change potential
Bulk Density	mg/m ³	1.93	1.96	1.95	-

Parameter	Units	Min	Max	Design	Comments
Dry Density	mg/m ³	1.37	1.57	1.47	-
Undrained shear Strength	kPa	49	149	100	See Section 15.4.2 for design comments. Determined from triaxial testing. Indicative of clay of high strength
pH	-	8.7	8.9	-	-
Water soluble sulphate (SO ₄ ²⁻)	mg/l	100	410	410	DS-4 AC-4
Acid soluble sulphate (SO ₄ ²⁻)	%	0.11	0.184	0.184	
Total Sulphur	%	0.057	0.77	0.77	
Total Potential Sulphate	%	0.17	2.31	2.31	
Oxidisable Sulphide	%	0.06	2.13	2.13	

15.3 Construction Considerations

15.3.1 Subsurface Concrete

Based on the pH values, water soluble sulphate and SD1 suite concentrations recorded by the chemical and geotechnical laboratory analysis, together with the calculated oxidisable sulphide¹³, a DS-5 AC-4 design mix concrete would ordinarily be required. However, in consideration of the low water soluble sulphate concentrations a limitation can be applied as set out within the BRE¹⁴ guidance, and therefore a lower DS-4 AC-4 may be utilised for buried structures when compared against the BRE assessment levels.

15.3.2 Floor Slabs

The results of the investigation indicate that the cohesive soils on-site are of high volume change potential. As such, proprietary suspended ground floor slabs should be designed with a minimum 300mm void based upon NHBC guidance.

15.3.3 Groundwater

Water was encountered in the exploratory holes at approximately 7.50mbgl, as outlined in Section 3. It is considered that this is likely to be representative of groundwater within the underlying Stanford Formation. It is therefore unlikely that groundwater will be encountered within shallow excavations and traditional methods such as sump pumping should be able to deal with any water resulting from surface runoff.

15.3.4 Deep Excavations

Although superficial deposits were generally found to be stable during the intrusive ground investigation, personnel entry into any excavations should be avoided where possible. However, if entry into excavations is required, the excavation sides should be adequately shored and supported or battered back to a safe angle in accordance with appropriate temporary works design.

¹⁴ BRE Special Digest 1:2005 – Third edition – Concrete in aggressive ground.

15.3.5 Earthworks and Material Handling

Should earthworks be required, an earthworks specification will be necessary to ensure the appropriate management and reuse of the existing soils.

15.3.6 Buried Utilities

It is recommended that existing live services are accurately located by careful hand digging and liaison undertaken with the utility companies with regard to any required works in these areas. The services should be clearly marked and taken into account in the construction design process.

15.4 Preliminary Foundation Recommendations

15.4.1 Building Near Trees

At this stage due to the high volume change potential, provision should be made for void formers within piled foundation design to mitigate the influence of existing/former trees. In areas of tree influence, compressible material/void formers with a dimension of 35mm will likely be required on the internal faces of external ground beams, with a void dimension of 150mm required beneath ground beams. In addition, an optional slip liner surrounding the pile should be considered by the design engineer. The advice of a specialist engineer should be sought to confirm these recommendations.

15.4.2 Foundation Options

The ground conditions on the site generally comprised made ground to a depth of between 0.70-1.10mbgl. This is underlain by Alluvium, comprising variable silty clay and/or sand and gravel which is frequently soft/loose, to approximately 5mbgl. This was further underlain by firm to stiff clay of the Stanford Formation which was observed to depths greater than 15mbgl.

Given the above, it is likely that the proposed development will require piled foundations. Preliminary pile design parameters are given in Table 15.5, based on an average undrained shear strength along the embedded length of the pile of 60kPa, an undrained shear strength at the base of the pile of 140kPa, an adhesion factor (α) of 0.45 and a factor of safety of 2.5.

Table 15.5 Preliminary Piling Design Parameters

Pile Diameter (mm)	Embedded Length (m)		
	6.0	8.0	10.0
300	75kN	100kN	125kN
500	200kN	225kN	250kN
700	325kN	375kN	425kN

In the event that greater bearing capacities are required piles should be taken to greater depth. The advice of specialist piling contractors should be sought to determine the most suitable and cost-effective piling method.

15.4.3 Temporary Working Platforms

In order for piles to be formed across the site, the construction of a temporary working platform will be necessary to enable safe tracking and set up of the piling rig. For preliminary cost planning purposes, estimated platform thicknesses are summarised in Table 15.6, using an example rig.

Table 15.6 Estimated Platform Thicknesses – Cohesive Subgrade

Example Rig Loading						Subgrade shear strength	Platform thickness
Case Load 1			Case Load 2				
Bearing pressure	Track length	Track width	Bearing pressure	Track length	Track width		
90kPa	3.0m	0.5m	240kPa	1.75m	0.5m	20kPa	800mm
						30kPa	650mm
						40kPa	500mm
						50kPa	300mm
<u>Note</u> Anticipated platform design highlighted bold.							

The working platform thickness should be designed on a case-by-case basis in accordance with BRE guidance¹⁵, in consideration of selected platform materials, local ground conditions and the selected piling rig.

¹⁵ BR470. Working platforms for tracked plant. 2004.

16 CONSIDERATIONS AND RECOMMENDATIONS

16.1 Considerations

The following uncertainties/data gaps have been identified which may require further consideration:

- A large portion of the site covered by the Co-op has not been investigated and could be concealing a thickness of made ground.

16.2 Recommendations for Further Work

16.2.1 Human Health/Plant Growth

- Provision should be made for all soft landscaped areas to be capped with an imported clean topsoil/subsoil. At this stage, it is considered that this would comprise a minimum 300mm cover in areas of shared soft landscaping. A site specific Remediation Strategy should be prepared to detail remedial requirements for the site.

16.2.2 Potable Water Supply Pipework

- Elevated contaminants on site with respect to the UKWIR guidelines indicate that upgraded water supply pipework will likely be required for any services installed. The statutory water provider should be consulted regarding suitable water supply pipework requirements.

16.2.3 Engineering

- The advice of specialist piling contractors should be sought to discuss the most cost-effective method of pile emplacement taking into account the ground and groundwater conditions described in this report.

16.2.4 General

- Discussions should be held with local landfill/soil waste treatment facilities to agree material classification/pre-treatment required for any soils to be disposed off-site as a result of proposed construction works.
- Ground workers should remain vigilant for visible and olfactory signs of contamination following demolition of on-site buildings.
- A site-specific health and safety plan should be prepared to inform on risks posed from the previous site use and mitigations for ground workers developing the site e.g. requirements for appropriate PPE, hygiene practices, environmental monitoring and requirements for mitigation measures during construction works.
- A copy of this report should be provided to the relevant regulatory authorities to confirm that they are in agreement with the report findings.

Appendix A – Drawings

— Site Boundary



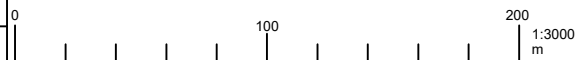
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 DWG Title: -
 DWG Number: -
 Date: -

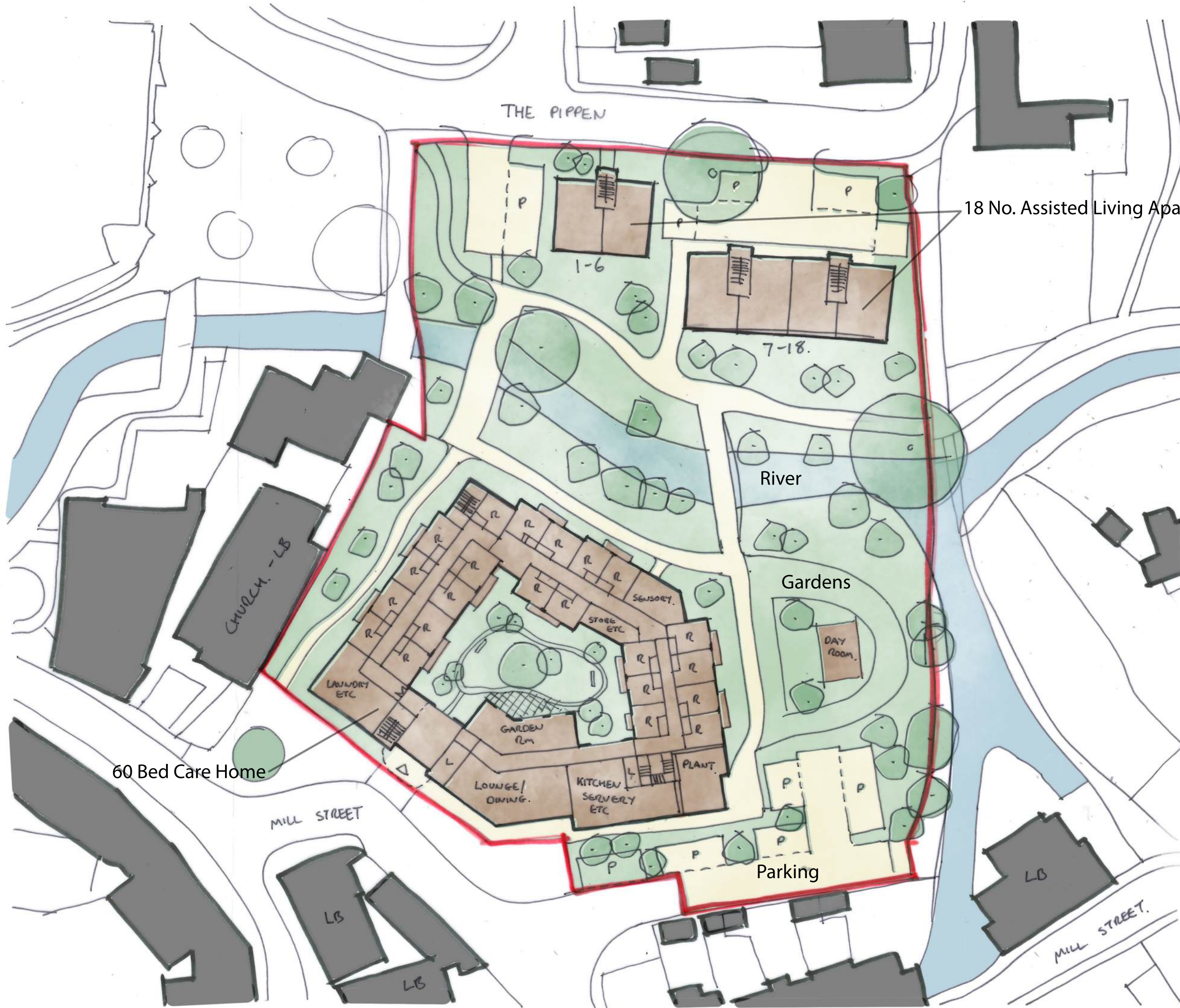
Drawn	Checked	Amendment	Date	Rev.
				Client
Cedar Care Developments Ltd				
Project				
Mill Street, Calne				
Title				
Site Location Plan				
Scale	Date	Drawn by	Check by	Rev.
1:3000@A4	05/07/24	DA	RG	

T&P
 Regen

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 Bristol, BS14 0BN
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Rev. Drawing No.
 P1225-01-001



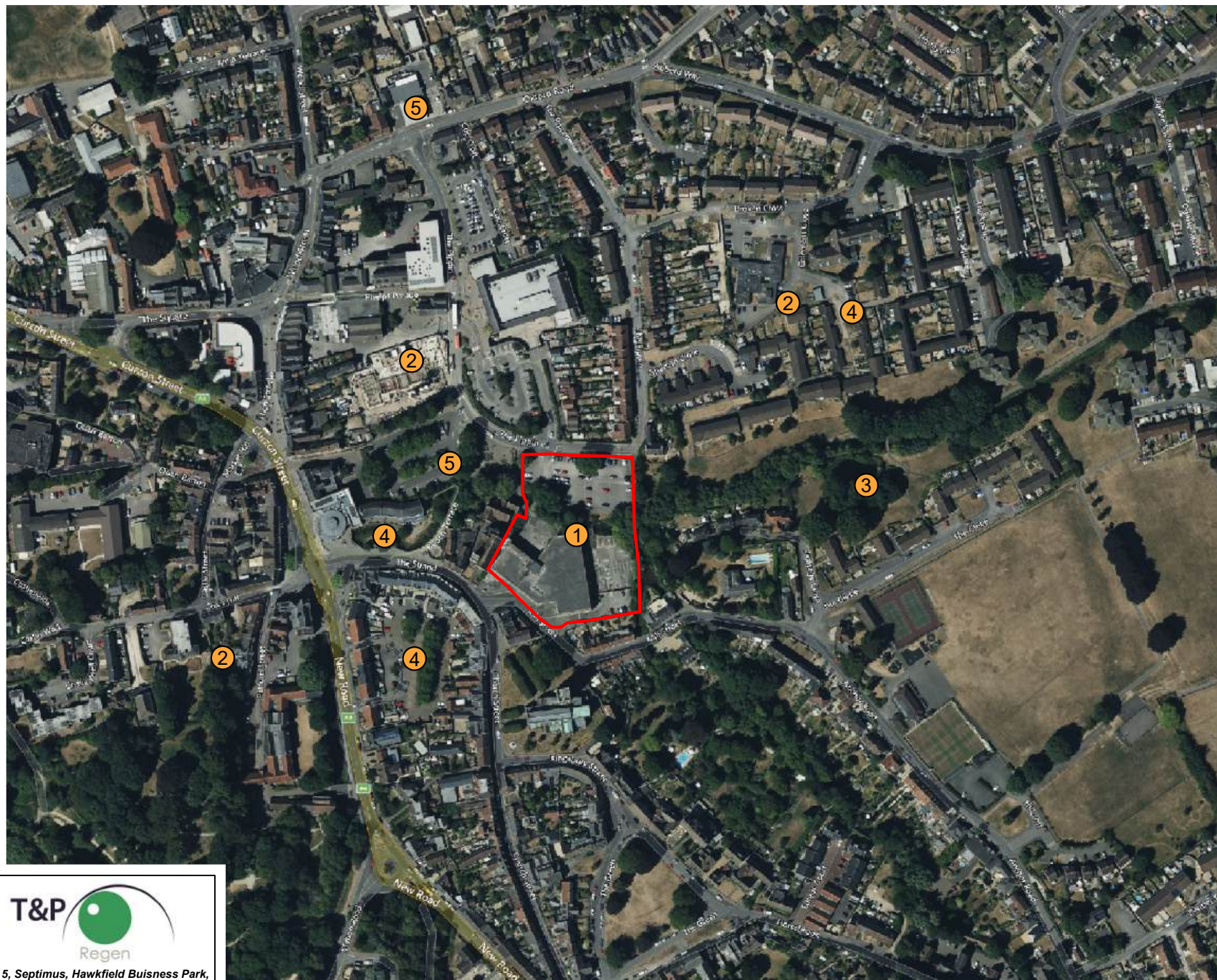


Proposed New Care Home
and Assisted Living Units
Sketch Proposals - Site
60 Bed Option
Former Co-op Store
Mill Street, Calne

4473/SK11.04.2024 - 1
1:500@A3

— Site Boundary

- ① APC No.1
Made ground associated with previous development.
- ② APC No.2
Historical electrical substations.
- ③ APC No.3
Potentially infilled former surface workings.
- ④ APC No.4
Historical above ground tanks.
- ⑤ APC No.5
Commercial/industrial activities including meat processing factory and fuel station.



Base Map

Company: -
DWG Title: -
DWG Number: -
Date: -

Drawn	Checked	Amendment	Date	Rev.
Cedar Care Developments Ltd				
Project				
Mill Street, Calne				
Title				
Areas Of Potential Concern Plan				
Scale	Date	Drawn by	Check by	Rev.
Sbar@A4	15/08/24	DA	RG	-

T&P
Regen

Unit 5, Septimus, Hawkfield Buisness Park,
Bristol, BS14 0BN
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Email: Info@TP-regen.co.uk

0 100 200
1:3500.0003
m

- Site Boundary

T&P Investigation

● Windowless Sampling Locations
(WS01 - WS06)

● Cable Percussive Locations
(BH01 - BH03)



Base Map

Company: -
DWG Title: -
DWG Number: -
Date: -

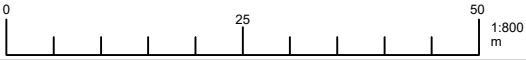
Drawn	Checked	Amendment	Date	Rev.
				Client
Cedar Care Developments Ltd				
Project				
Mill Street, Calne				
Title				
Exploratory Hole Location Plan				
Scale	Date	Drawn by	Check by	Rev.
1:800@A3	05/07/24	DA	RG	

T&P

Regen

Unit 5, Septimus, Hawkfield Buisness Park,
Bristol, BS14 0BN
Tel: 0117 927 7756
Email: Info@TP-regen.co.uk

Rev.	Drawing No.
	P1225-01-002



Appendix B – Photographs



PLATE 01 – North Carpark - Site Entrance – Looking North.



PLATE 02 – North Carpark - Site Entrance – Looking North.



PLATE 03 – North Carpark - Site Overview – Looking North.



PLATE 04 – North Carpark - Site Overview – Looking East.



PLATE 05 – North Carpark - Site Overview – Looking South.



PLATE 06 – North Carpark - Site Overview – Looking West.



PLATE 07 – South Carpark - Site Entrance – Looking North.



PLATE 08 – South Carpark - Site Entrance – Looking South.



PLATE 09 – South Carpark - Site Overview – Looking North.



PLATE 10 – South Carpark - Site Overview – Looking East.



PLATE 11 – South Carpark - Site Overview – Looking South.



PLATE 12 – South Carpark - Site Overview – Looking West.



PLATE 13 – Courtyard - Site Entrance – Looking North.



PLATE 14 – Courtyard - Site Entrance – Looking South.



PLATE 15 – Courtyard - Site Overview – Looking North.



PLATE 16 – Courtyard - Site Overview – Looking East.



PLATE 17 – Courtyard - Site Overview – Looking South.



PLATE 18 – Courtyard - Site Overview – Looking West.



PLATE 19 – Dynamic Windowless Sample Cores – WS01.



PLATE 20 – Dynamic Windowless Sample Cores – WS02.



PLATE 21 – Dynamic Windowless Sample Cores – WS03.



PLATE 22 – Dynamic Windowless Sample Cores – WS04.



PLATE 23 – Dynamic Windowless Sample Cores – WS05.



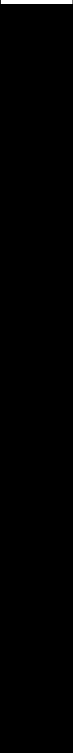
PLATE 24 – Dynamic Windowless Sample Cores – WS06.

Appendix C – Exploratory Logs

T&P Regen www.tandpregeneration.co.uk	Contract Name: Mill Street, Calne			Client: Cedar Care Developments Ltd			Borehole ID: BH02							
	Contract Number: P1225 / CS-2381		Date Started: 03/07/2024		Logged By: RG		Checked By: JSB		Status: FINAL					
	Easting: 399922.90		Northing: 171000.30		Ground Level: 68.58mOD		Plant Used: DANDO 3000		Scale: 1:50					
Cable Percussion Borehole Log			Weather: Clear			Termination: Engineers Instruction			SPT Hammer: BS04 Energy Ratio: 80%					
Samples & In Situ Testing			Strata Details						Groundwater					
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill / Installation				
1.00	D1	SPT(C) 1.20m, N=4 (1,1/1,1,1,1)	68.38	0.20		MADE GROUND: ASPHALT.			1					
			(0.90)	MADE GROUND: Dark grey slightly clayey sandy GRAVEL. Gravel is subangular fine to coarse of brick, clinker and limestone.										
2.00 - 2.45	D2	SPT(C) 2.00m, N=5 (1,1/1,1,1,2)	67.48	1.10		Soft brown sandy silty CLAY. (ALLUVIUM)			2					
3.00 - 3.45	D3	SPT(C) 3.00m, N=6 (1,1/2,1,1,2)	(5.40)						3					
4.00 - 4.45	D4	SPT(C) 4.00m, N=9 (1,2/2,2,3,2)							4					
5.00 - 5.45	D5	SPT(C) 5.00m, N=7 (2,2/1,2,2,2)							5					
6.00	D6	SPT(C) 6.50m, N=37 (7,8/9,9,9,10)	62.08	6.50		Dense greyish brown slightly clayey slightly sandy GRAVEL. Gravel is subangular fine to coarse of limestone. (ALLUVIUM)			6					
7.00	D7								(1.60)		7			
8.00 - 8.45	D8	SPT(C) 8.00m, N=19 (3,4/4,5,5,5)	60.48	8.10		Stiff dark grey slightly sandy CLAY. (STANFORD FORMATION)			8					
9.00	D9	U1							9					
9.50 - 9.95									10					
10.00	D10													
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water														
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)	Groundwater encountered at 7.60mbgl.					
03-07-2024	18:00	0.00	0.00		18.45	150	9.00	150						
Chiselling					Installation				Water Strikes					
From (m)	To (m)	Duration	Remarks		Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
									7.60	7.60	7.80	20	3.40	Moderate seepage.
									13.60	9.00		20	12.80	Slight seepage.
T&P Regeneration CP Template											Issue Number: 1		Issue Date: June 2016	

T&P Regen www.tandpregeneration.co.uk		Contract Name: Mill Street, Calne		Client: Cedar Care Developments Ltd			Borehole ID: BH02							
		Contract Number: P1225 / CS-2381	Date Started: 03/07/2024	Logged By: RG	Checked By: JSB	Status: FINAL								
Cable Percussion Borehole Log		Easting: 399922.90	Northing: 171000.30	Ground Level: 68.58mOD	Plant Used: DANDO 3000		Sheet 2 of 2 Scale: 1:50							
Weather: Clear			Termination: Engineers Instruction			SPT Hammer: BS04 Energy Ratio: 80%								
Samples & In Situ Testing			Strata Details					Groundwater						
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill / Installation					
11.00 - 11.45	D11	SPT(C) 11.00m, N=28 (5,5/6,7,7,8)				Stiff dark grey slightly sandy CLAY. (STANFORD FORMATION)		11						
12.00	D12							12						
12.50 - 12.95	U2							13						
13.00	D13							14						
14.00 - 14.45	D14	SPT(C) 14.00m, N=30 (5,6/6,8,8,8)		(10.35)				15						
15.00	D15							16						
16.00	D16	SPT(C) 15.50m, N=32 (7,7/7,8,8,9)						17						
17.00 - 17.45	D17	SPT(C) 17.00m, N=44 (10,9/10,11,11,12)						18						
18.00	D18		50.13	18.45		End of Borehole at 18.45m		19						
18.00 - 18.45	U3							20						
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water														
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)	Groundwater encountered at 7.60mbgl.					
03-07-2024	15:00	18.00	9.00		18.45	150	9.00	150						
Chiselling					Installation				Water Strikes					
From (m)	To (m)	Duration	Remarks		Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
									7.60	7.60	7.80	20	3.40	Moderate seepage.
									13.60	9.00		20	12.80	Slight seepage.
T&P Regeneration CP Template										Issue Number: 1		Issue Date: June 2016		

T&P Regen www.tandpregeneration.co.uk	Contract Name: Mill Street, Calne		Client: Cedar Care Developments Ltd			Borehole ID: BH03								
	Contract Number: P1225 / CS-2381	Date Started: 03/07/2024	Logged By: RG	Checked By: JSB	Status: FINAL	Sheet 1 of 2								
	Easting: 399888.00	Northing: 171011.50	Ground Level: 64.37mOD	Plant Used: DANDO 3000		Scale: 1:50								
Cable Percussion Borehole Log														
Weather: Clear		Termination: Engineers Instruction			SPT Hammer: BS04 Energy Ratio: 80%									
Samples & In Situ Testing			Strata Details					Groundwater						
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill / Installation					
1.00	D1	SPT(C) 1.20m, N=5 (1,1/1,2,1,1)	64.17	0.20		MADE GROUND: ASPHALT.	1							
			(0.50)	MADE GROUND: Dark grey slightly clayey sandy GRAVEL. Gravel is subangular fine to coarse of brick, clinker and limestone.										
63.67	0.70		Soft brown sandy silty CLAY. (ALLUVIUM)	1										
2.00 - 2.45	D2	SPT(C) 2.00m, N=7 (1,1/2,2,2,1)		(4.10)			2							
3.00 - 3.45	D3	SPT(C) 3.00m, N=9 (2,2/2,2,3,2)					3							
4.00 - 4.45	D4	SPT(C) 4.00m, N=11 (2,2/2,3,3,3)					4							
5.00	D5	SPT(C) 6.50m, N=19 (4,5/5,4,5,5)	59.57	4.80		Stiff dark grey slightly sandy CLAY. (STANFORD FORMATION)	5							
5.00 - 5.45	U1													
6.00	D6						6							
7.00	D7						7							
8.00 - 8.45	D8	SPT(C) 8.00m, N=21 (5,6/5,5,5,6)					8							
9.00	D9	SPT(C) 9.50m, N=27 (6,6/7,6,7,7)					9							
10.00	D10						10							
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water														
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)						
03-07-2024	15:30	0.00	0.00	6.00	15.00	150	8.00	150	Groundwater encountered at 7.20mbgl.					
03-07-2024	19:00	7.20	7.20											
04-07-2024	22:00	8.45	8.00											
03-07-2024	20:30	8.45	8.00											
Chiselling					Installation				Water Strikes					
From (m)	To (m)	Duration	Remarks		Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
									7.20	7.20	8.00	20	3.00	Moderate seepage.
T&P Regeneration CP Template										Issue Number: 1		Issue Date: June 2016		

T&P Regen www.tandpregeneration.co.uk		Contract Name: Mill Street, Calne			Client: Cedar Care Developments Ltd			Borehole ID: BH03						
		Contract Number: P1225 / CS-2381		Date Started: 03/07/2024	Logged By: RG	Checked By: JSB	Status: FINAL	Sheet 2 of 2						
		Easting: 399888.00		Northing: 171011.50	Ground Level: 64.37mOD	Plant Used: DANDO 3000		Scale: 1:50						
Weather: Clear				Termination: Engineers Instruction			SPT Hammer: BS04 Energy Ratio: 80%							
Samples & In Situ Testing			Strata Details						Groundwater					
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill / Installation				
11.00	D11	SPT(C) 11.00m, N=31 (7,7/8,8,7,8)				Stiff dark grey slightly sandy CLAY. (STANFORD FORMATION)			11					
12.00	D12								12					
13.00	D13	SPT(C) 12.50m, N=34 (7,8/8,8,9,9)							13					
14.00	D14								14					
14.00 - 14.45	U2													
15.00	D15		49.37	15.00		End of Borehole at 15.00m			15					
									16					
									17					
									18					
									19					
									20					
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water														
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)	Groundwater encountered at 7.20mbgl.					
04-07-2024	12:45	15.00	8.00		15.00	150	8.00	150						
Chiselling					Installation				Water Strikes					
From (m)	To (m)	Duration	Remarks		Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
									7.20	7.20	8.00	20	3.00	Moderate seepage.
T&P Regeneration CP Template											Issue Number: 1		Issue Date: June 2016	

T&P Regen www.tandpregeneration.co.uk	Contract Name: Mill Street, Calne			Client: Cedar Care Developments Ltd			Borehole ID: WS01				
	Contract Number: P1225 / CS-2381		Date Started: 02/07/2024		Logged By: RG		Checked By: JSB		Status: FINAL		
	Easting: 399927.00		Northing: 171041.60		Ground Level: 64.07mOD		Plant Used: DART 548		Scale: 1:25		
Windowless Sample Borehole Log			Weather: Clear			Termination: Engineers Instruction			SPT Hammer: DART548 Energy Ratio: 60%		
Samples & In Situ Testing					Strata Details					Groundwater	
Depth	Sample ID	Windowless Sample Recovery	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill / Installation	
0.20 - 0.30	ES1	0.00 - 1.00 = 65%	SPT(C) 1.00m, N=12 (2,2/3,3,3,3)	63.97	0.10		MADE GROUND: ASPHALT.	1			
1.20 - 1.30	D1	1.00 - 2.00 = 75%		62.97	1.10		Firm dark grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of limestone. (ALLUVIUM)				
1.20 - 1.30	ES2				(0.70)						
2.00 - 2.10	D2	2.00 - 3.00 = 70%	SPT(C) 2.00m, N=6 (4,3/2,2,1,1)	62.27	1.80		Light grey slightly gravelly very clayey SAND. Gravel is angular to subangular fine to coarse of limestone. (ALLUVIUM)	2			
							At 2.00mbgl: Loose SAND.				
				61.77	2.30		Firm greyish brown mottled orangish brown slightly sandy CLAY. (STANFORD FORMATION)				
3.50 - 3.60	D3	3.00 - 4.00 = 50%	SPT(C) 3.00m, N=8 (1,2/2,2,2,2) HV 3.00m, 54 / 24kPa					3			
								4			
4.90 - 5.00	D4	4.00 - 5.00 = 30%	SPT(C) 4.00m, N=15 (2,3/3,4,4,4) HV 4.00m, 70 / 26kPa					5			
				59.07	5.00		End of Borehole at 5.00m				
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water											
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)	Groundwater not encountered.		
Water Strikes					Installation						
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Type	Dia (mm)		
						0.00	1.00	PLAIN	63		
						1.00	2.00	SLOTTED	63		
T&P Regeneration WS Template Issue Number: 1 Issue Date: June 2016											

T&P Regen www.tandpregeneration.co.uk	Contract Name: Mill Street, Calne			Client: Cedar Care Developments Ltd			Borehole ID: WS02				
	Contract Number: P1225 / CS-2381		Date Started: 02/07/2024		Logged By: RG		Checked By: JSB		Status: FINAL		
	Easting: 399908.10		Northing: 171063.00		Ground Level: 64.61mOD		Plant Used: DART 548		Scale: 1:25		
Windowless Sample Borehole Log											
Weather: Clear				Termination: Engineers Instruction				SPT Hammer: DART548 Energy Ratio: 60%			
Samples & In Situ Testing				Strata Details						Groundwater	
Depth	Sample ID	Windowless Sample Recovery	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill / Installation	
0.20 - 0.30	ES1	0.00 - 1.00 = 70%		64.51	0.10		MADE GROUND: ASPHALT.				
					(0.60)		MADE GROUND: Light brown clayey gravelly SAND. Gravel is angular to subangular fine to coarse of brick and limestone.				
0.80 - 0.90	ES2	1.00 - 2.00 = 60%	SPT(C) 1.00m, N=14 (3,3/3,4,3,4)	63.91	0.70		Firm dark brown slightly sandy CLAY. (ALLUVIUM)				
					(0.30)						
		2.00 - 3.00 = 55%	SPT(C) 2.00m, N=23 (4,5/9,5,4,5)	63.61	1.00		Medium dense light brown slightly gravelly very clayey SAND. Gravel is subangular to subrounded fine to coarse of flint. (ALLUVIUM)	1			
					(2.00)		At 2.00mbgl: Dense SAND.				
2.50 - 2.60	D1										
3.00 - 3.10	D2	3.00 - 4.00 = 50%	SPT(C) 3.00m, N=12 (3,3/3,3,3,3)	61.61	3.00		Firm light brown very sandy CLAY. (ALLUVIUM)	3			
					(0.50)						
		4.00 - 5.00 = 70%	SPT(C) 4.00m, N=14 (3,3/3,3,4,4) HV 4.00m, 62 / 20kPa	61.11	3.50		Firm light brown mottled orangish brown CLAY. (STANFORD FORMATION)	4			
					(1.50)						
4.90 - 5.00	D3		SPT(C) 5.00m, N=19 (4,4/4,4,5,6)	59.61	5.00		End of Borehole at 5.00m	5			
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water											
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)	Groundwater not encountered.		
Water Strikes					Installation						
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Type	Dia (mm)		
						0.00	1.00	PLAIN	63		
						1.00	3.50	SLOTTED	63		
T&P Regeneration WS Template Issue Number: 1 Issue Date: June 2016											

T&P Regen www.tandpregeneration.co.uk	Contract Name: Mill Street, Calne			Client: Cedar Care Developments Ltd			Borehole ID: WS03				
	Contract Number: P1225 / CS-2381		Date Started: 02/07/2024		Logged By: RG		Checked By: JSB		Status: FINAL		
	Easting: 399940.80		Northing: 171060.30		Ground Level: 64.01mOD		Plant Used: DART 548		Scale: 1:25		
Windowless Sample Borehole Log											
Weather: Clear			Termination: Engineers Instruction			SPT Hammer: DART548 Energy Ratio: 60%					
Samples & In Situ Testing					Strata Details					Groundwater	
Depth	Sample ID	Windowless Sample Recovery	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill / Installation	
0.20 - 0.30	ES1	0.00 - 1.00 = 80%		63.86 63.72 63.71	0.15 ~~0.20~~		MADE GROUND: ASPHALT.				
0.90 - 1.00	ES2						MADE GROUND: Dark grey sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of brick and limestone.				
1.10 - 1.20	D1	1.00 - 2.00 = 75%	SPT(C) 1.00m, N=20 (4,5/4,4,4,8)				Firm light brown very sandy CLAY. (ALLUVIUM)				
							At 1.00mbqt: Medium dense SAND.		1		
							Light brown slightly clayey SAND. (ALLUVIUM)				
					(2.90)						
		2.00 - 3.00 = 60%	SPT(C) 2.00m, N=12 (2,4/4,3,2,3)						2		
2.80 - 3.00	D2										
		3.00 - 4.00 = 85%	SPT(C) 3.00m, N=11 (1,1/2,3,3,3)						3		
				60.81	3.20		Stiff grey CLAY. (STANFORD FORMATION)				
3.60 - 3.70	D3										
		4.00 - 5.00 = 95%	SPT(C) 4.00m, N=17 (2,3/4,4,4,5) HV 4.00m, 88 / 20kPa						4		
					(1.80)						
4.80 - 5.00	D4										
			HV 4.90m, 112 / 40kPa SPT(C) 5.00m, N=25 (4,5/5,6,6,8)	59.01	5.00				5		
							End of Borehole at 5.00m				
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water											
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)	Groundwater not encountered.		
Water Strikes					Installation						
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Type	Dia (mm)		
						0.00	1.00	PLAIN	63		
						1.00	3.00	SLOTTED	63		
T&P Regeneration WS Template Issue Number: 1 Issue Date: June 2016											

T&P Regen www.tandpregeneration.co.uk	Contract Name: Mill Street, Calne			Client: Cedar Care Developments Ltd			Borehole ID: WS05				
	Contract Number: P1225 / CS-2381		Date Started: 02/07/2024		Logged By: RG		Checked By: JSB		Status: FINAL		
	Easting: 399945.10		Northing: 171001.30		Ground Level: 68.39mOD		Plant Used: DART 548		Scale: 1:25		
Windowless Sample Borehole Log											
Weather: Clear				Termination: Engineers Instruction				SPT Hammer: DART548 Energy Ratio: 60%			
Samples & In Situ Testing				Strata Details						Groundwater	
Depth	Sample ID	Windowless Sample Recovery	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill / Installation	
0.20 - 0.30	ES1	0.00 - 1.00 = 60%		68.29	0.10		MADE GROUND: ASPHALT.				
					(0.30)		MADE GROUND: Reddish brown slightly sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone.				
				67.99	0.40		MADE GROUND: Dark grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of brick and clinker.				
					(0.50)						
1.00 - 1.10	ES2	1.00 - 2.00 = 65%	SPT(C) 1.00m, N=1 (1,0/0,0,1,0)	67.49	0.90		Soft grey slightly sandy silty CLAY. (ALLUVIUM)	1			
1.40	D3										
2.40 - 2.50	D1	2.00 - 3.00 = 45%	SPT(C) 2.00m, N=8 (1,2/2,2,2,2)		(2.60)			2			
3.40 - 3.50	D2	3.00 - 4.00 = 10%	SPT(C) 3.00m, N=8 (7,4/3,2,2,1)					3			
		4.00 - 5.00 = 25%	SPT(C) 4.00m, N=6 (2,3/2,1,1)	64.89	3.50		Grey clayey gravelly SAND. Gravel is subangular fine to coarse of limestone. (ALLUVIUM)	4			
					(1.00)		At 4.00mbgl: Loose SAND.				
				63.89	4.50		Light brown slightly gravelly silty SAND. Gravel is subangular to subrounded fine to coarse of limestone. (ALLUVIUM)				
					(0.50)						
			SPT(C) 5.00m, N=17 (2,3/3,4,5,5)	63.39	5.00		End of Borehole at 5.00m	5			
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water											
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)	Groundwater encountered at 2.00mbgl.		
Water Strikes					Installation						
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Type	Dia (mm)		
						0.00	1.00	PLAIN	63		
						1.00	5.00	SLOTTED	63		
T&P Regeneration WS Template Issue Number: 1 Issue Date: June 2016											

Appendix D – Geotechnical Results



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



4041

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 02/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

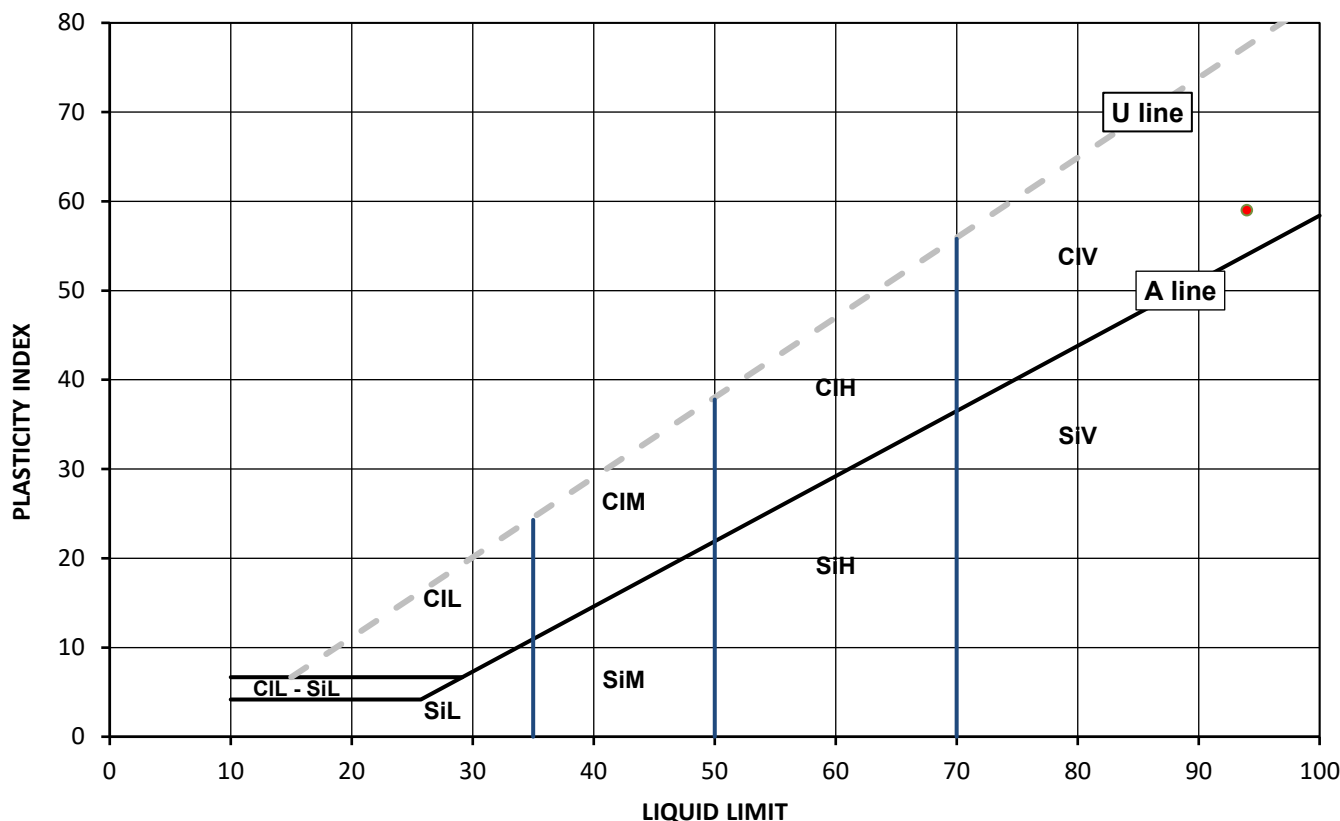
Test Results:

Laboratory Reference: 253568
Hole No.: BH01
Sample Reference: 5
Sample Description: Brown slightly organic CLAY

Depth Top [m]: 5.00
Depth Base [m]: 5.45
Sample Type: D

Sample Preparation: Tested in natural condition;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
40.8	94	0.984	35	59	0.10	0.90	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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**TEST CERTIFICATE****DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 02/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

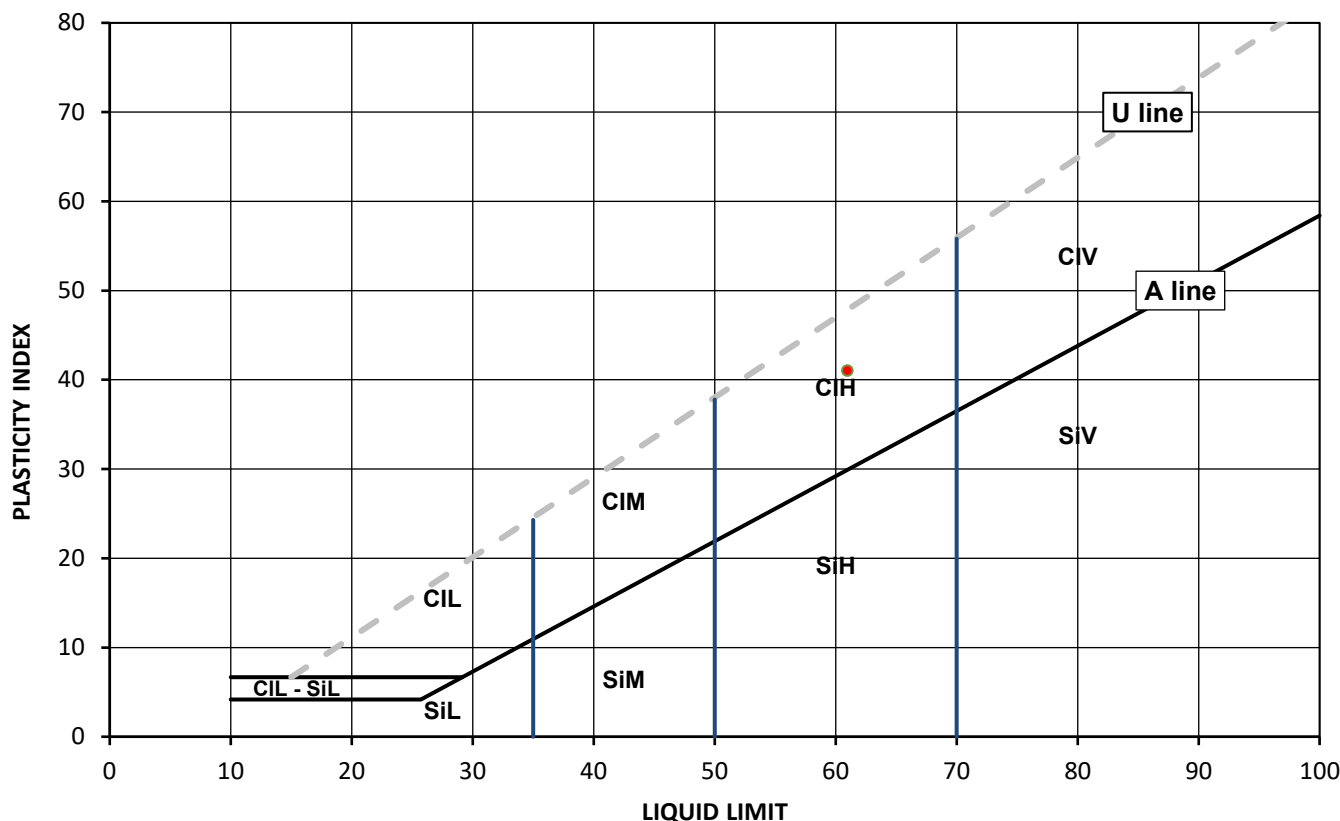
Test Results:

Laboratory Reference: 253570
Hole No.: BH01
Sample Reference: 15
Sample Description: Greyish brown slightly gravelly CLAY

Depth Top [m]: 15.00
Depth Base [m]: 15.00
Sample Type: D

Sample Preparation: Tested after >0.425 mm removed by hand;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
31.1	61	1.019	20	41	0.27	0.73	95



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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Brackmills Industrial Estate
Northampton NN4 7EB



4041

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 03/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

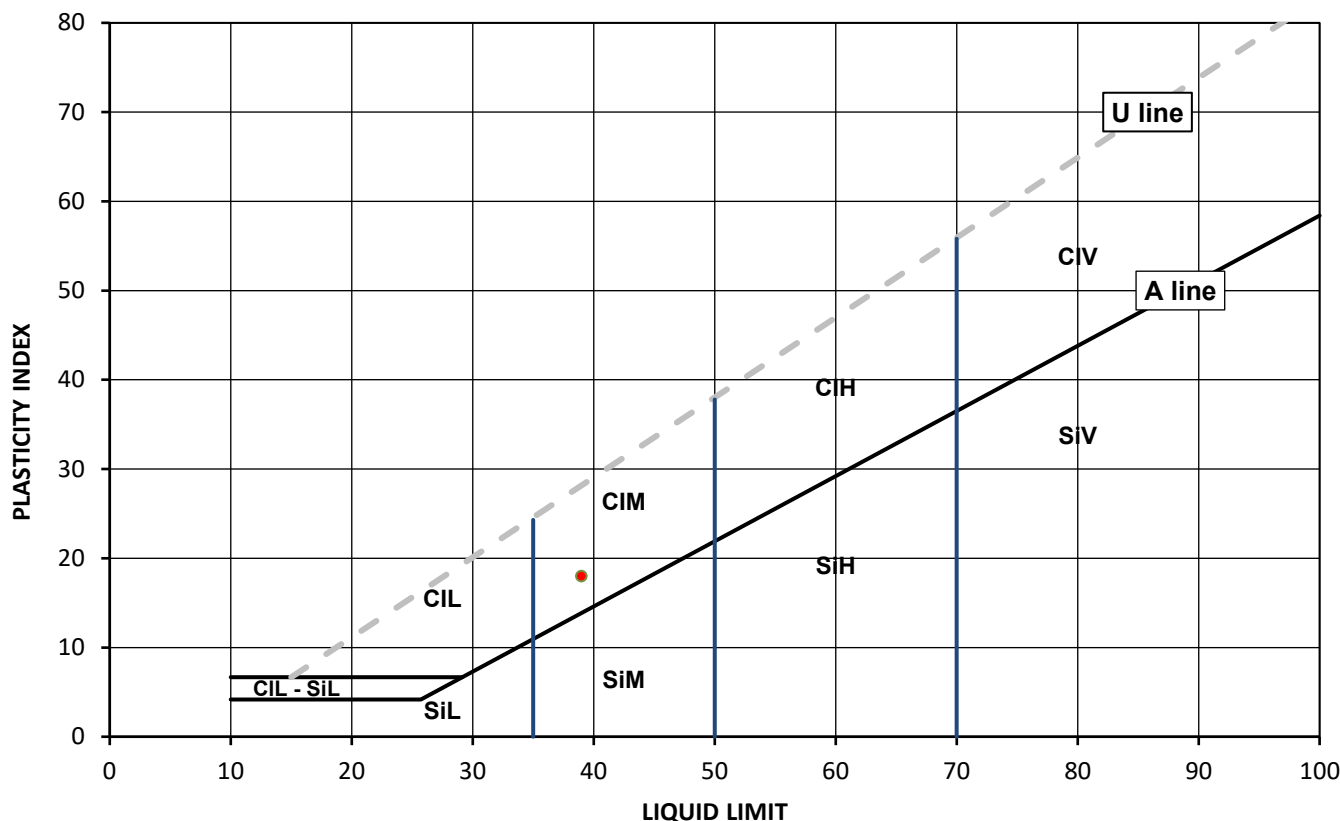
Test Results:

Laboratory Reference: 253571
Hole No.: BH02
Sample Reference: 8
Sample Description: Greyish brown very gravelly sandy CLAY

Depth Top [m]: 8.00
Depth Base [m]: 8.45
Sample Type: D

Sample Preparation: Tested after washing to remove >0.425 mm;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
22.3	39	1.041	21	18	0.06	0.94	37



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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**TEST CERTIFICATE****DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 04/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

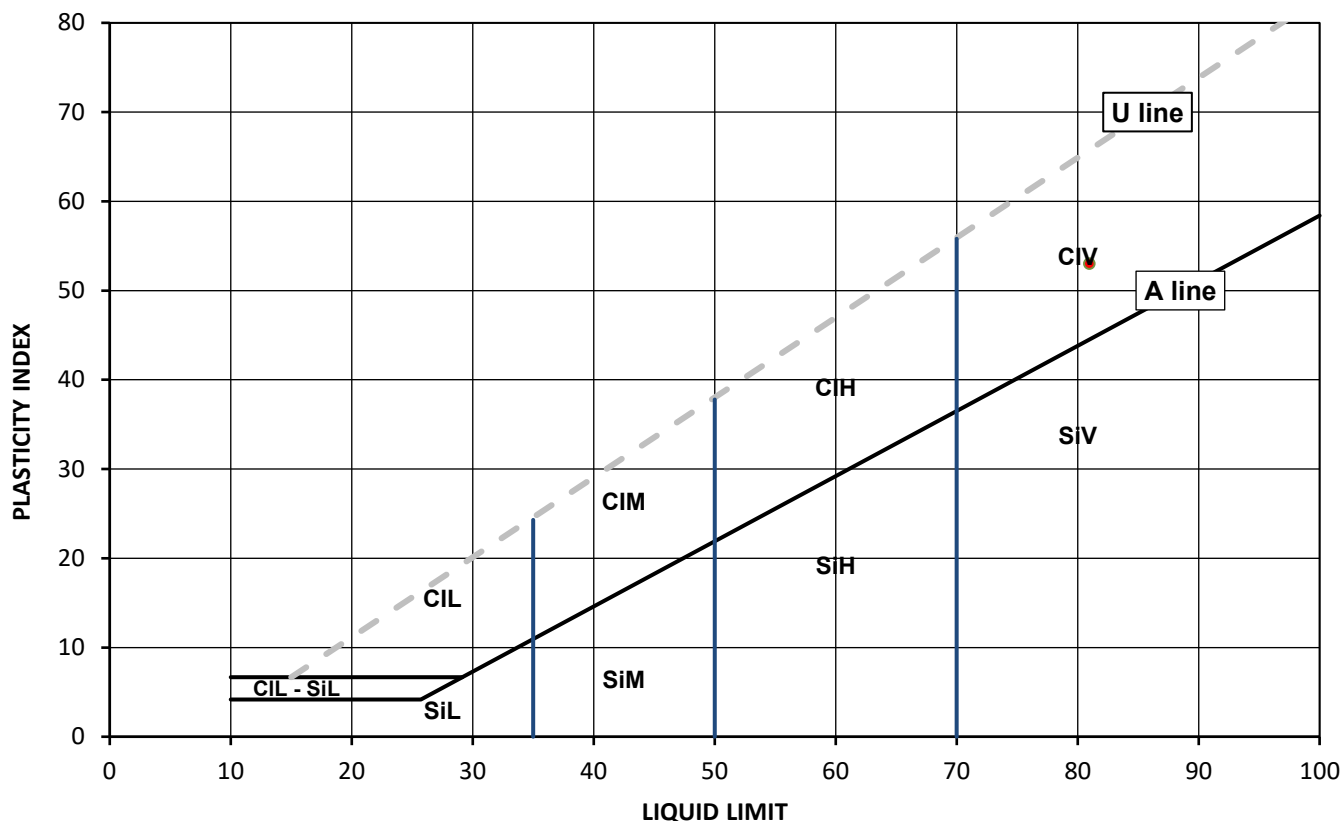
Test Results:

Laboratory Reference: 253576
Hole No.: BH03
Sample Reference: 10
Sample Description: Greyish brown slightly gravelly CLAY

Depth Top [m]: 10.00
Depth Base [m]: 10.00
Sample Type: D

Sample Preparation: Tested after >0.425 mm removed by hand;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
40.7	81	1.019	28	53	0.25	0.75	97



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

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**TEST CERTIFICATE****DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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Northampton NN4 7EB



Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 02/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

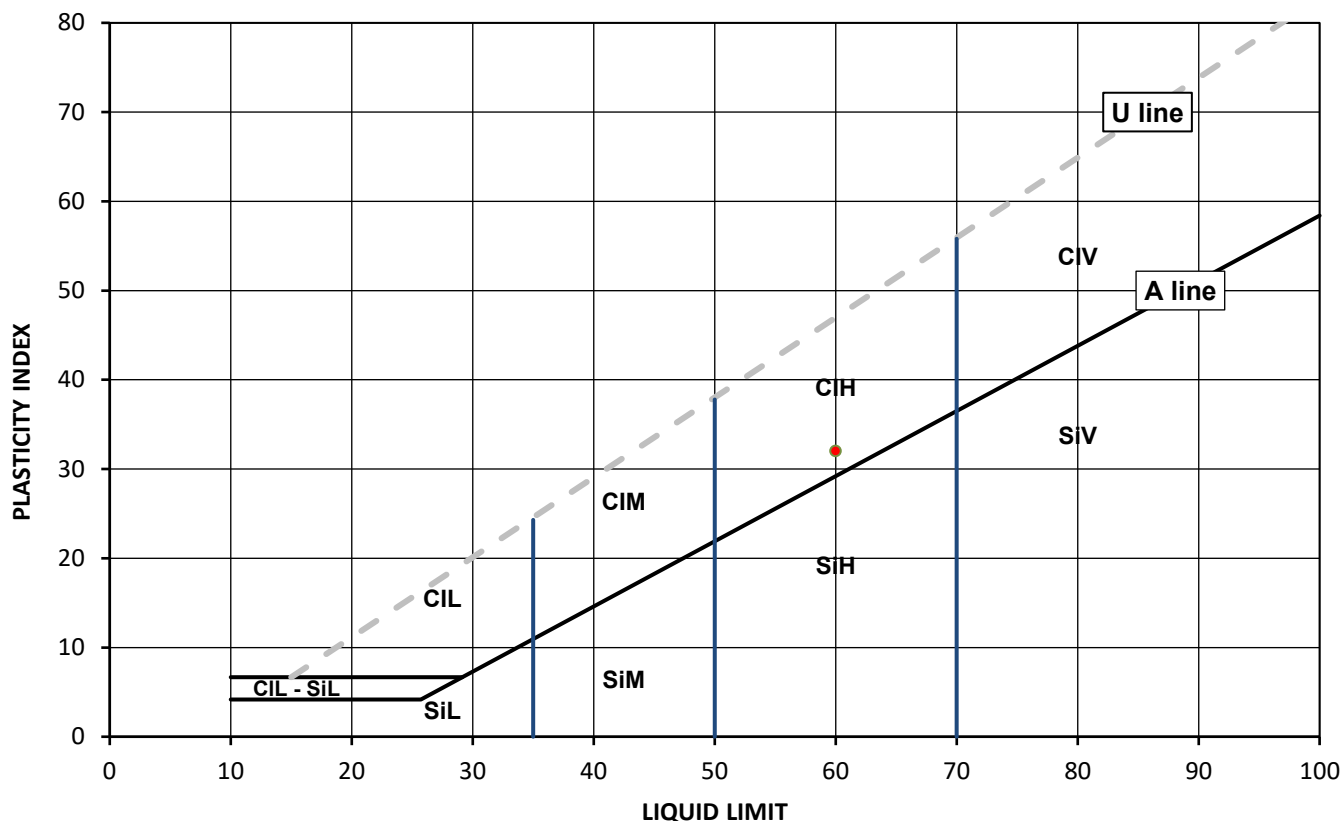
Test Results:

Laboratory Reference: 253578
Hole No.: WS01
Sample Reference: 1
Sample Description: Brownish grey slightly gravelly CLAY

Depth Top [m]: 1.20
Depth Base [m]: 1.30
Sample Type: D

Sample Preparation: Tested after washing to remove >0.425 mm;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
24.0	60	1.055	28	32	-0.13	1.13	71



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



4041

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 02/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

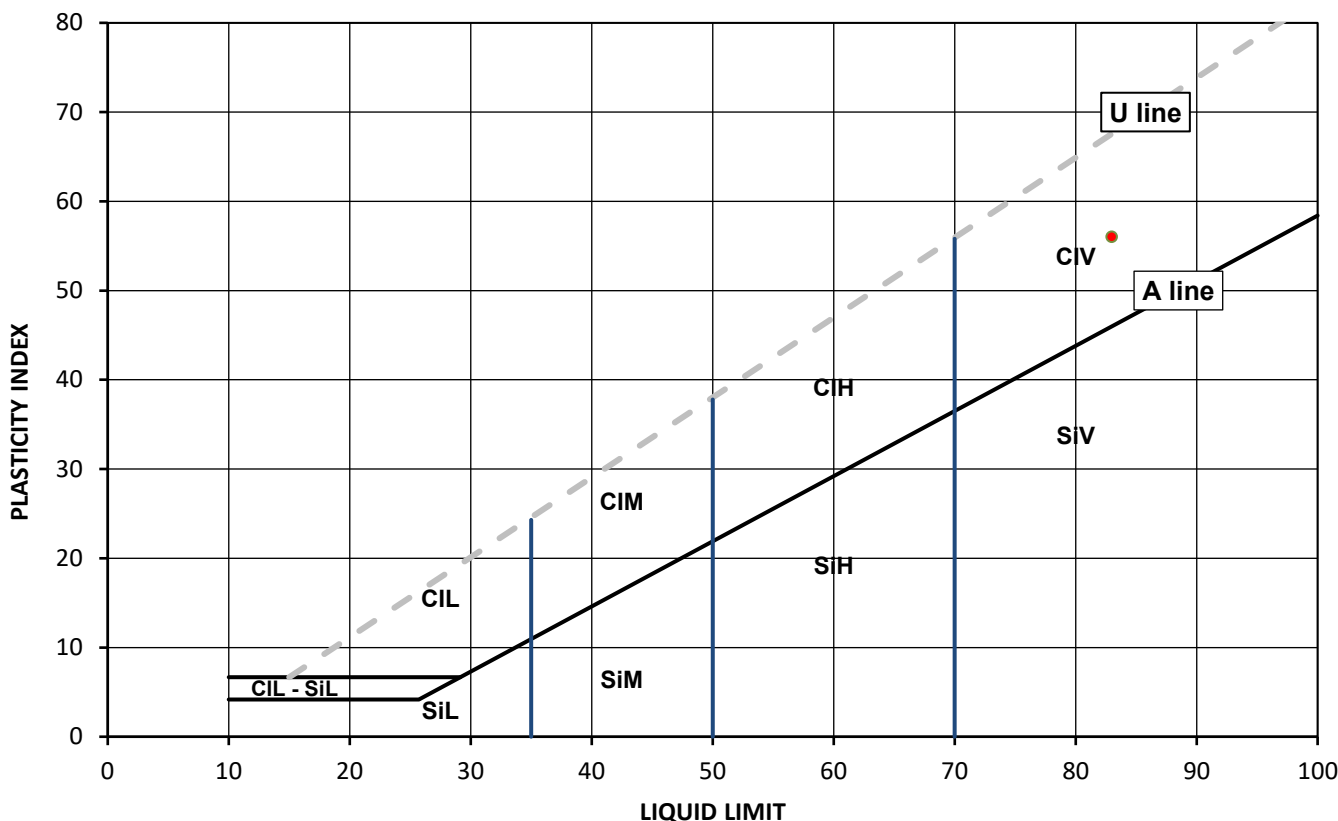
Test Results:

Laboratory Reference: 253580
Hole No.: WS03
Sample Reference: 3
Sample Description: Greyish brown CLAY

Depth Top [m]: 3.60
Depth Base [m]: 3.70
Sample Type: D

Sample Preparation: Tested in natural condition;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
29.8	83	1.037	27	56	0.05	0.95	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



4041

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 02/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

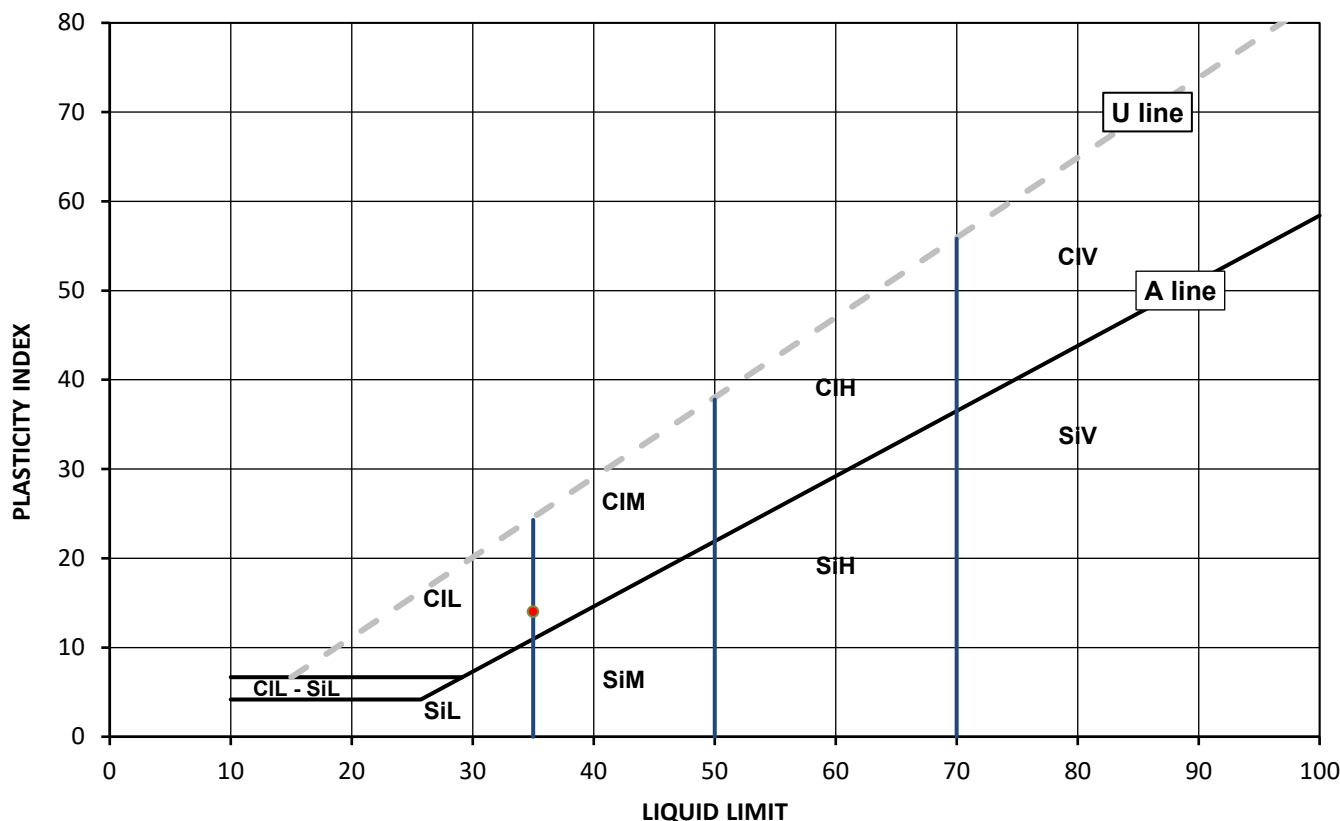
Test Results:

Laboratory Reference: 253581
Hole No.: WS04
Sample Reference: 4
Sample Description: Brownish grey gravelly sandy CLAY

Depth Top [m]: 4.90
Depth Base [m]: 5.00
Sample Type: D

Sample Preparation: Tested after washing to remove >0.425 mm;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
15.8	35	1.042	21	14	-0.36	1.36	62



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

**TEST CERTIFICATE****DETERMINATION OF PLASTIC LIMIT**

Tested in Accordance with: BS EN ISO 17892-12:2018+A1:2021

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 02/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

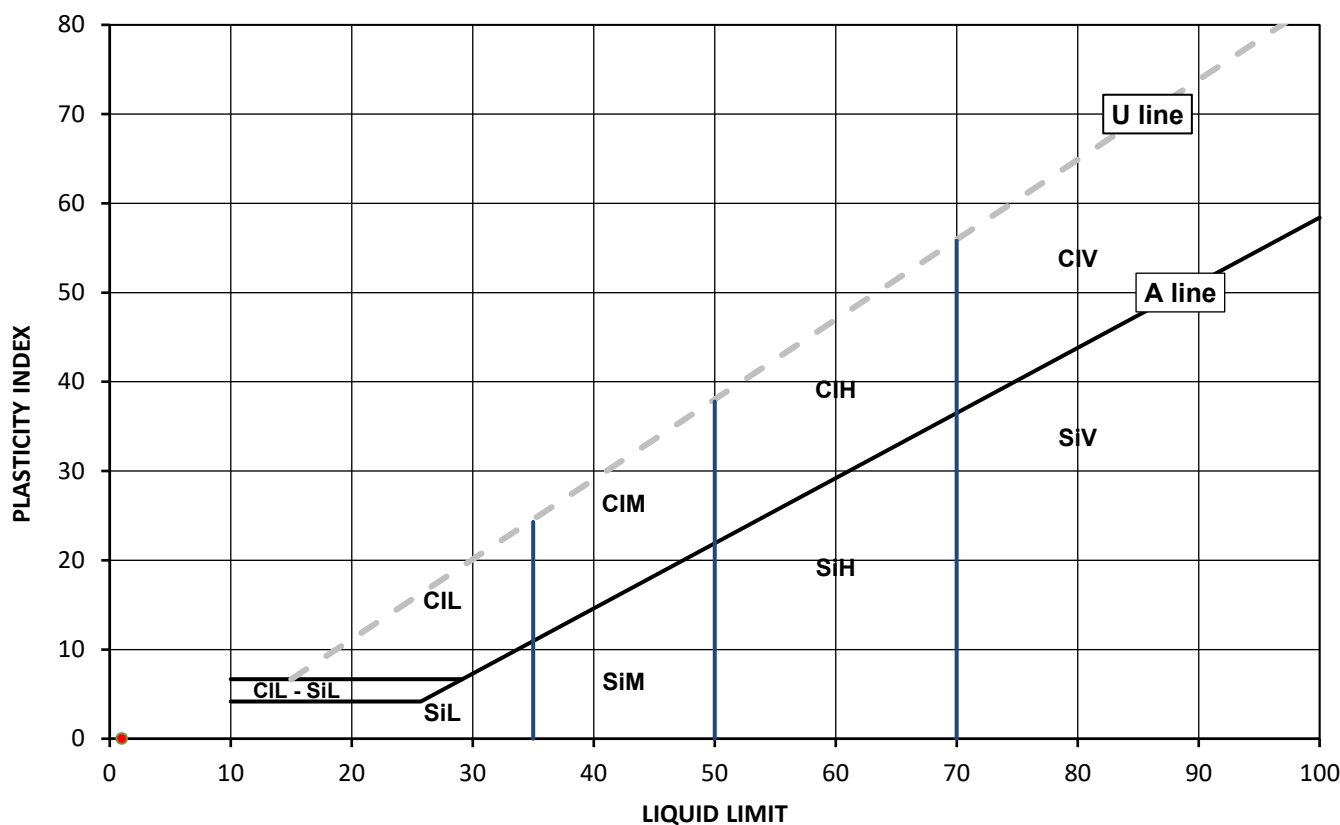
Test Results:

Laboratory Reference: 253579
Hole No.: WS02
Sample Reference: 1
Sample Description: Brownish grey CLAY with chalk

Depth Top [m]: 2.50
Depth Base [m]: 2.60
Sample Type: D

Sample Preparation: Tested in natural condition;
Cone Type: N/A

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17.1	N/A	N/A	20	N/A	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	L Low below 35
Si	Silt	M Medium 35 to 50
		H High 50 to 70
		V Very high exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Remarks:

Signed:

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Tested in Accordance with:

BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6. Correlation Factor by Clayton C.R.I and Jukes A.W (1978). W by BS EN ISO 17892-1:2014+A1:2022.

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 02/07 - 04/07/2024
Date Received: 08/07/2024
Date Tested: 17/07/2024
Sampled By: Not Given

4041

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL*	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD
			m	m					%	%		%	%			Mg/m3	Mg/m3	Mg/m3
253568	BH01	5	5.00	5.45	D	Brown slightly organic CLAY	Atterberg 1 Point	40.8	100	94	0.984	35	59	80g/30 deg	N			
253570	BH01	15	15.00	15.00	D	Greyish brown slightly gravelly CLAY	Atterberg 1 Point	31.1	95	61	1.019	20	41	80g/30 deg	R			
253571	BH02	8	8.00	8.45	D	Greyish brown very gravelly sandy CLAY	Atterberg 1 Point	22.3	37	39	1.041	21	18	80g/30 deg	W			
253576	BH03	10	10.00	10.00	D	Greyish brown slightly gravelly CLAY	Atterberg 1 Point	40.7	97	81	1.019	28	53	80g/30 deg	R			
253578	WS01	1	1.20	1.30	D	Brownish grey slightly gravelly CLAY	Atterberg 1 Point	24.0	71	60	1.055	28	32	80g/30 deg	W			
253579	WS02	1	2.50	2.60	D	Brownish grey CLAY with chalk		17.1										
253580	WS03	3	3.60	3.70	D	Greyish brown CLAY	Atterberg 1 Point	29.8	100	83	1.037	27	56	80g/30 deg	N			
253581	WS04	4	4.90	5.00	D	Brownish grey gravelly sandy CLAY	Atterberg 1 Point	15.8	62	35	1.042	21	14	80g/30 deg	W			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0.425mm removed by hand, W - Tested after washing to remove >425mm; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

Signed:

Katarzyna Koziel

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041



TEST CERTIFICATE

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

Tested in Accordance with: BS EN ISO 17892-8:2018,
BS 1377-2 Cl. 28:2022

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 02/07/2024
Date Received: 08/07/2024
Date Tested: 29/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

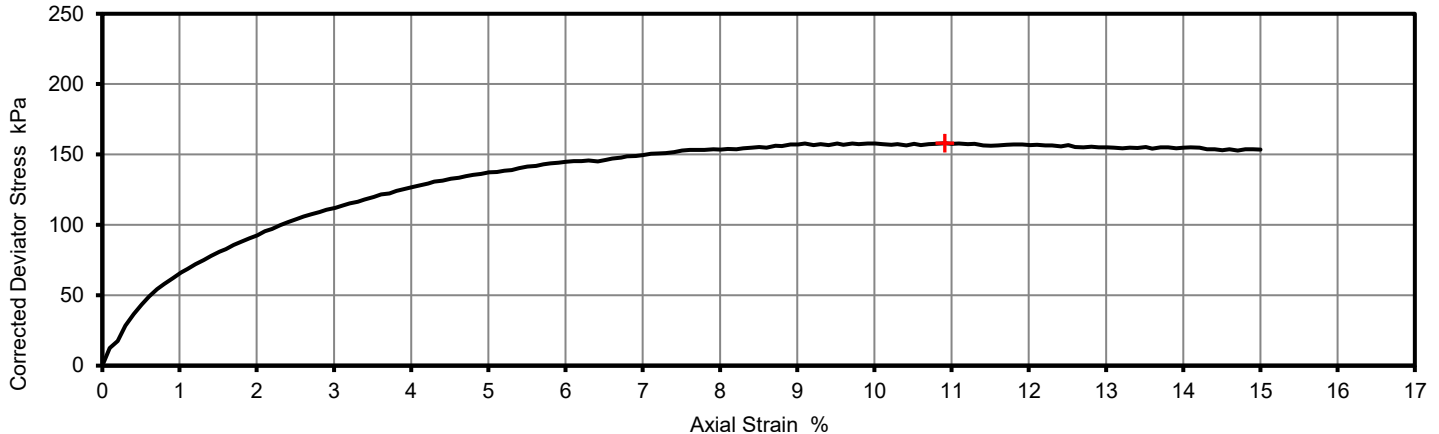
Laboratory Reference: 253569
Hole No.: BH01
Sample Reference: 6
Sample Description: Dark grey CLAY
Sample Preparation: Sample prepared in accordance with BS EN ISO 17892-8: 2018 Clause 6.2.

Depth Top [m]: 6.50
Depth Base [m]: 6.95
Sample Type: U

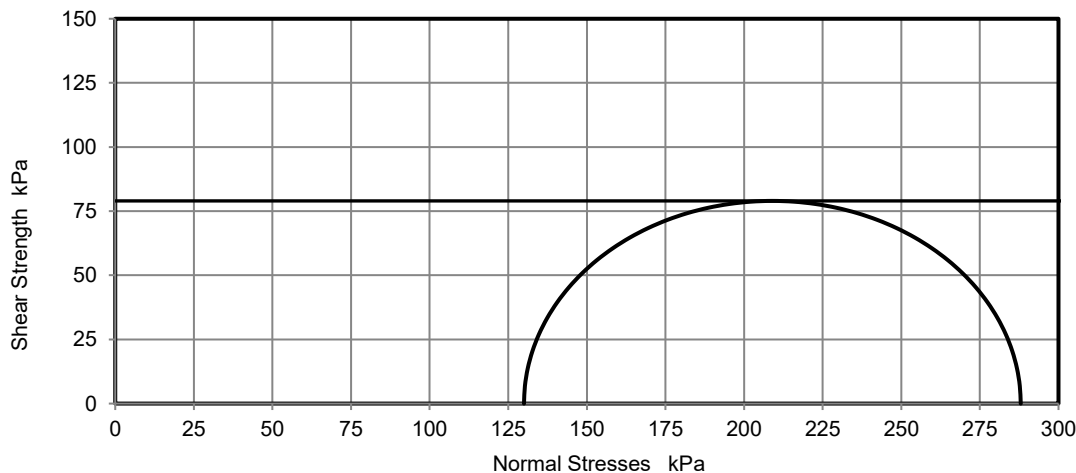
Test Number	1
Depth within Sample	- m
Length	210.26 mm
Diameter	102.49 mm
Length Prior to Shearing	210.26 mm
Bulk Density	1.93 Mg/m ³
Initial Water Content	31.3 %
Final Water Content	30.0 %
Dry Density	1.47 Mg/m ³

Rate of Strain	2.00 %/min
Cell Pressure	130 kPa
Axial Strain at Failure	10.9 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	158 kPa
Undrained Shear Strength, c_u	79 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Membrane Thickness	0.29 mm
Membrane Correction	1.78 kPa

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects.

Remarks:

Signed:

Katarzyna Koziel

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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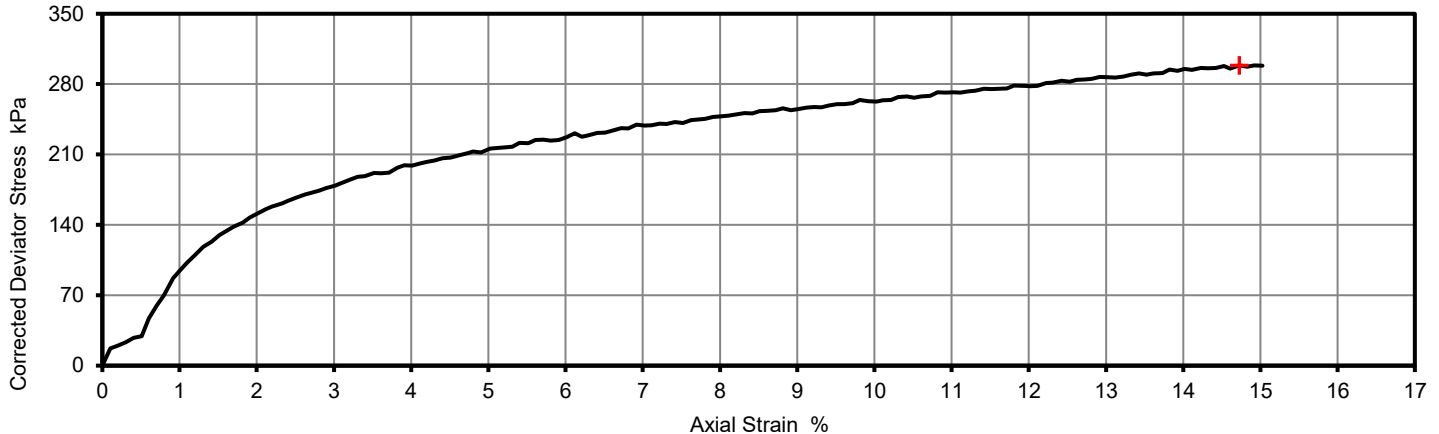
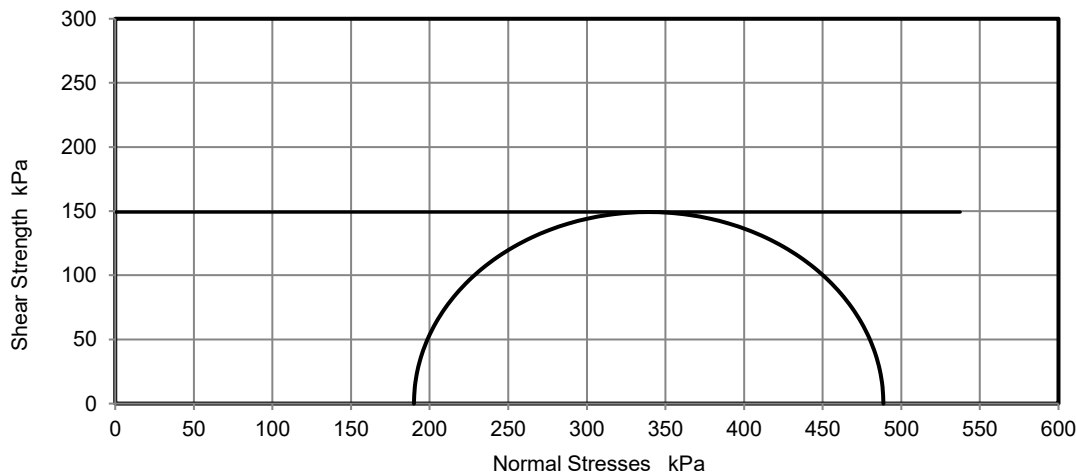
**TEST CERTIFICATE****UNCONSOLIDATED UNDRAINED TRIAXIAL TEST**Tested in Accordance with: BS EN ISO 17982-8:2018,
BS 1377-2 Cl. 28:2022i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EBClient: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BNContact: Rachel Gilbert
Site Address: Mill Street, CalneClient Reference: P1225
Job Number: 24-030086-1
Date Sampled: 03/07/2024
Date Received: 08/07/2024
Date Tested: 29/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

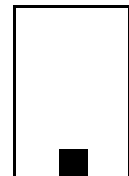
Test Results:Laboratory Reference: 253572
Hole No.: BH02
Sample Reference: 1
Sample Description: Dark grey slightly sandy CLAY
Sample Preparation: Sample prepared in accordance with BS EN ISO 17892-8: 2018 Clause 6.2.Depth Top [m]: 9.50
Depth Base [m]: 9.95
Sample Type: U

Test Number	1
Depth within Sample	- m
Length	76.50 mm
Diameter	37.94 mm
Length Prior to Shearing	76.47 mm
Bulk Density	1.95 Mg/m ³
Initial Water Content	24.3 %
Final Water Content	24.5 %
Dry Density	1.57 Mg/m ³

Rate of Strain	2.00 %/min
Cell Pressure	190 kPa
Axial Strain at Failure	14.7 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	299 kPa
Undrained Shear Strength, c_u	149 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Membrane Thickness	0.20 mm
Membrane Correction	4.48 kPa

Deviator Stress v Axial Strain**Mohr Circles**

Position within sample



Note: Deviator stress corrected for area change and membrane effects.

Remarks:**Signed:***Katarzyna Koziel*Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

Tested in Accordance with: BS EN ISO 17892-8:2018,
BS 1377-2 Cl. 28:2022

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 03/07/2024
Date Received: 08/07/2024
Date Tested: 29/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

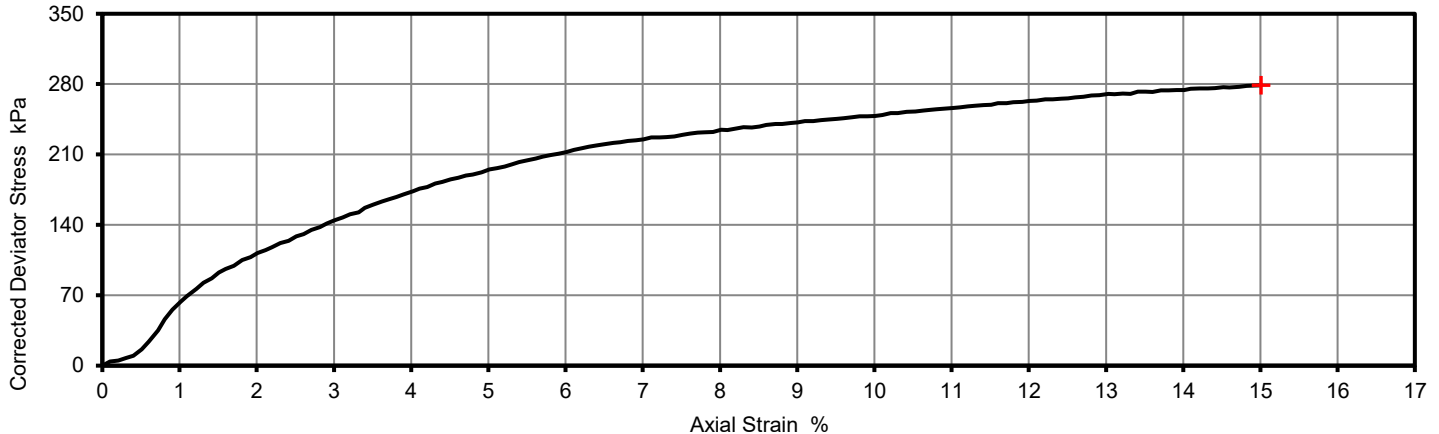
Laboratory Reference: 253573
Hole No.: BH02
Sample Reference: 2
Sample Description: Dark grey very sandy CLAY
Sample Preparation: Sample prepared in accordance with BS EN ISO 17892-8: 2018 Clause 6.2.

Depth Top [m]: 12.50
Depth Base [m]: 12.95
Sample Type: U

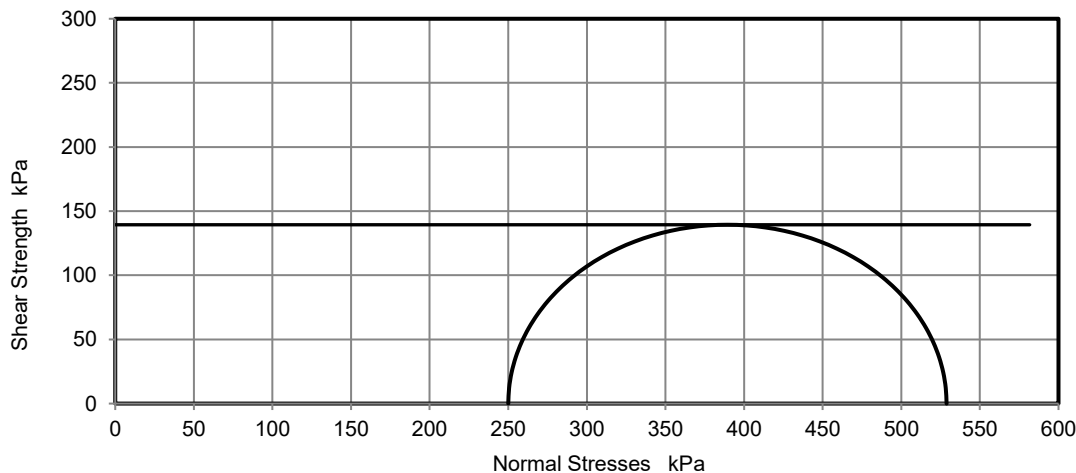
Test Number	1
Depth within Sample	- m
Length	139.68 mm
Diameter	69.44 mm
Length Prior to Shearing	139.67 mm
Bulk Density	1.92 Mg/m ³
Initial Water Content	28.2 %
Final Water Content	26.7 %
Dry Density	1.50 Mg/m ³

Rate of Strain	2.00 %/min
Cell Pressure	250 kPa
Axial Strain at Failure	15.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	279 kPa
Undrained Shear Strength, cu	139 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Compound
Membrane Thickness	0.25 mm
Membrane Correction	3.12 kPa

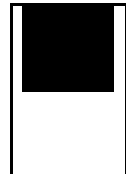
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects.

Remarks:

Signed:

Katarzyna Koziel

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

Tested in Accordance with: BS EN ISO 17892-8:2018,
BS 1377-2 Cl. 28:2022

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 03/07/2024
Date Received: 08/07/2024
Date Tested: 29/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

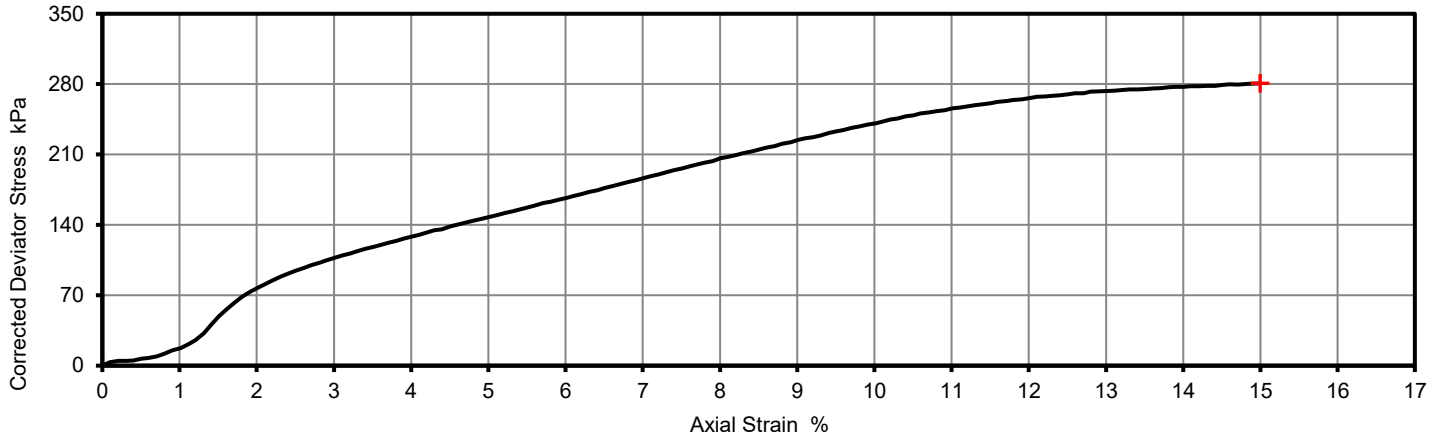
Laboratory Reference: 253574
Hole No.: BH02
Sample Reference: 18
Sample Description: Dark grey very sandy CLAY
Sample Preparation: Sample prepared in accordance with BS EN ISO 17892-8: 2018 Clause 6.2.

Depth Top [m]: 18.00
Depth Base [m]: 18.45
Sample Type: U

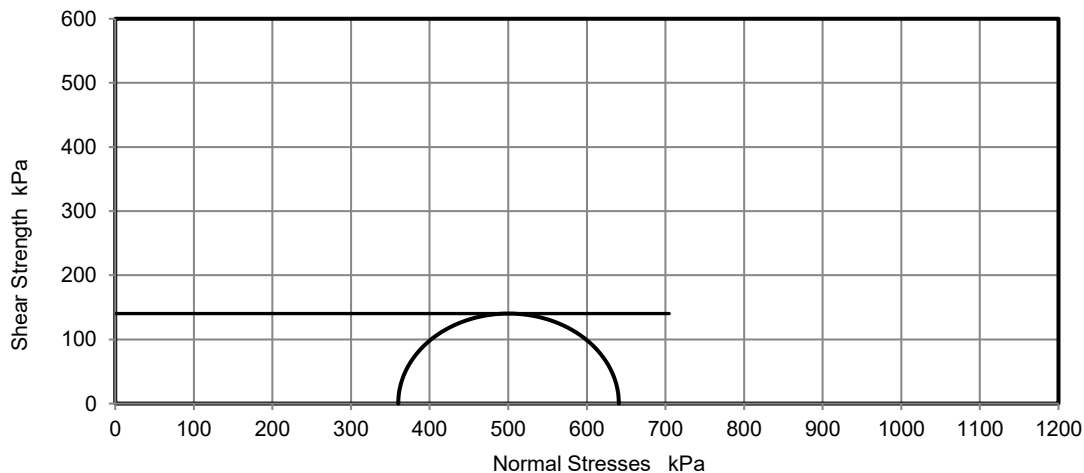
Test Number	1
Depth within Sample	- m
Length	204.00 mm
Diameter	102.82 mm
Length Prior to Shearing	204.00 mm
Bulk Density	1.96 Mg/m ³
Initial Water Content	29.1 %
Final Water Content	27.9 %
Dry Density	1.52 Mg/m ³

Rate of Strain	2.00 %/min
Cell Pressure	360 kPa
Axial Strain at Failure	15.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	281 kPa
Undrained Shear Strength, c_u	140 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Membrane Thickness	0.30 mm
Membrane Correction	2.53 kPa

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects.

Remarks:

Signed:

Katarzyna Koziel

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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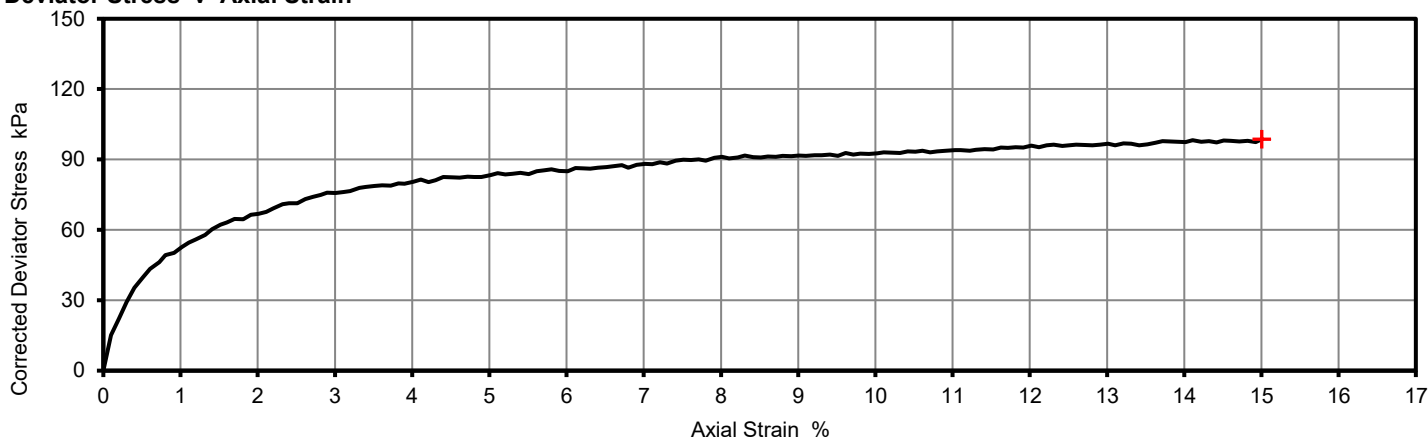
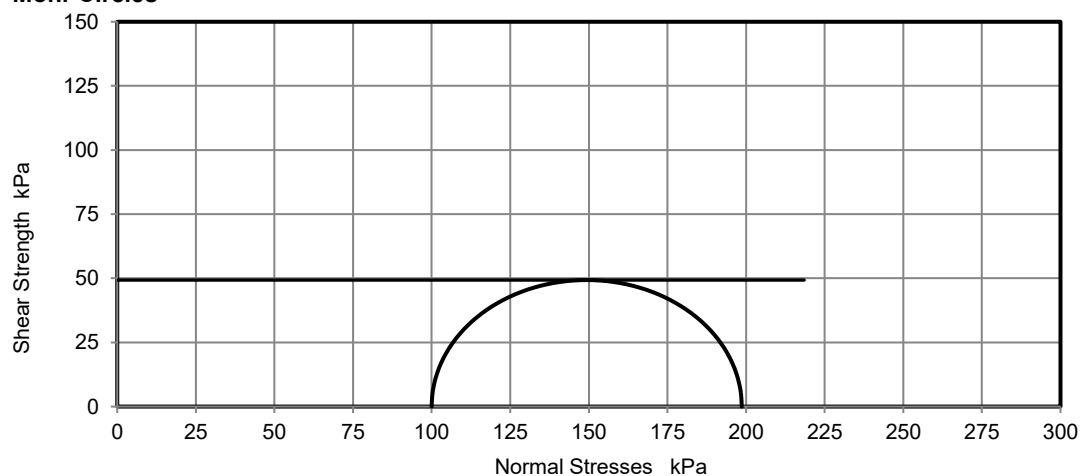
**TEST CERTIFICATE****UNCONSOLIDATED UNDRAINED TRIAXIAL TEST**Tested in Accordance with: BS EN ISO 17892-8:2018,
BS 1377-2 Cl. 28:2022i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EBClient: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BNContact: Rachel Gilbert
Site Address: Mill Street, CalneClient Reference: P1225
Job Number: 24-030086-1
Date Sampled: 04/07/2024
Date Received: 08/07/2024
Date Tested: 29/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

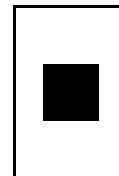
Test Results:Laboratory Reference: 253575
Hole No.: BH03
Sample Reference: 5
Sample Description: Dark grey very sandy CLAY
Sample Preparation: Sample prepared in accordance with BS EN ISO 17892-8: 2018 Clause 6.2.Depth Top [m]: 5.00
Depth Base [m]: 5.45
Sample Type: U

Test Number	1
Depth within Sample	- m
Length	99.46 mm
Diameter	49.99 mm
Length Prior to Shearing	99.44 mm
Bulk Density	1.80 Mg/m ³
Initial Water Content	30.8 %
Final Water Content	29.4 %
Dry Density	1.37 Mg/m ³

Rate of Strain	2.00 %/min
Cell Pressure	100 kPa
Axial Strain at Failure	15.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	99 kPa
Undrained Shear Strength, c_u	49 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Membrane Thickness	0.23 mm
Membrane Correction	3.98 kPa

Deviator Stress v Axial Strain**Mohr Circles**

Position within sample



Note: Deviator stress corrected for area change and membrane effects.

Remarks:**Signed:***Katarzyna Koziel*Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

Tested in Accordance with: BS EN ISO 17982-8:2018,
BS 1377-2 Cl. 28:2022

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Rachel Gilbert
Site Address: Mill Street, Calne

Client Reference: P1225
Job Number: 24-030086-1
Date Sampled: 04/07/2024
Date Received: 08/07/2024
Date Tested: 29/07/2024
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

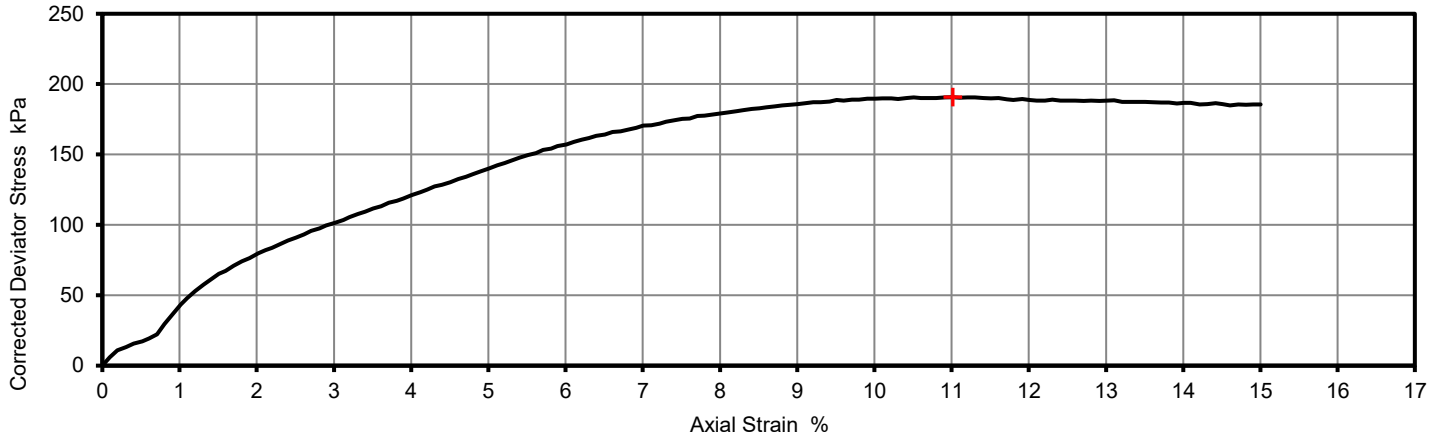
Laboratory Reference: 253577
Hole No.: BH03
Sample Reference: 2
Sample Description: Dark grey slightly sandy CLAY
Sample Preparation: Sample prepared in accordance with BS EN ISO 17892-8: 2018 Clause 6.2.

Depth Top [m]: 14.00
Depth Base [m]: 14.45
Sample Type: U

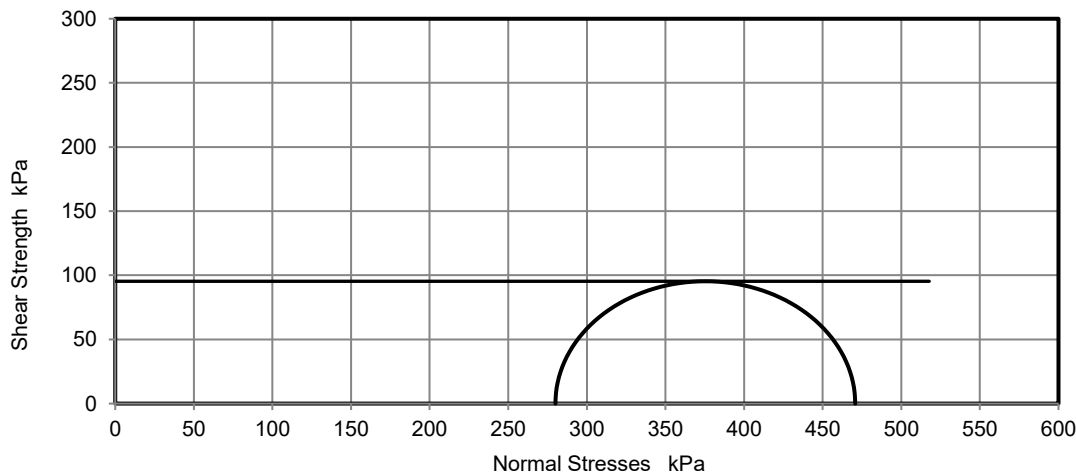
Test Number	1
Depth within Sample	- m
Length	208.64 mm
Diameter	103.52 mm
Length Prior to Shearing	208.63 mm
Bulk Density	1.93 Mg/m ³
Initial Water Content	28.9 %
Final Water Content	27.7 %
Dry Density	1.50 Mg/m ³

Rate of Strain	2.00 %/min
Cell Pressure	280 kPa
Axial Strain at Failure	11.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	191 kPa
Undrained Shear Strength, cu	95 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Compound
Membrane Thickness	0.28 mm
Membrane Correction	1.72 kPa

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects.

Remarks:

Signed:

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Katarzyna Koziel

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd



T&P Regeneration
Unit 5
Septimus
Hawkfield Business Park
BS14 0BN

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: rachel@tp-regen.co.uk

Analytical Report Number : 24-030087

Project / Site name:	Mill Street, Calne	Samples received on:	08/07/2024
Your job number:	P1225	Samples instructed on/ Analysis started on:	10/07/2024
Your order number:	19315	Analysis completed by:	19/07/2024
Report Issue Number:	1	Report issued on:	19/07/2024
Samples Analysed:	6 soil samples		

Signed:

Dominika Liana
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-030087
Project / Site name: Mill Street, Calne
Your Order No: 19315

Lab Sample Number	253582	253583	253584	253585	253586
Sample Reference	BH01	BH01	BH02	BH02	BH03
Sample Number	1	14	7	17	4
Depth (m)	1.00-1.00	14.00-14.45	7.00-7.00	17.00-17.45	4.00-4.45
Date Sampled	02/07/2024	02/07/2024	03/07/2024	03/07/2024	04/07/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	17	14	19	28
Total mass of sample received	kg	0.1	NONE	0.6	0.5	0.6	0.6	0.5

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	9	8.9	8.7	8.9	8.8
Total Sulphate as SO ₄	%	0.005	MCERTS	0.235	0.184	0.079	0.209	0.11
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	290	820	42	1800	200
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	145	410	21.1	909	100
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	17	78	13	76	9.8
Total Sulphur	mg/kg	50	MCERTS	940	7700	460	10000	570
Total Sulphur	%	0.005	MCERTS	0.094	0.77	0.046	1.01	0.057
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	5.2	< 2.5	11	2.8
Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	10	< 5.0	22	5.7

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-030087
 Project / Site name: Mill Street, Calne
 Your Order No: 19315

Lab Sample Number				253587
Sample Reference				BH03
Sample Number				9
Depth (m)				9.00-9.00
Date Sampled				04/07/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	25
Total mass of sample received	kg	0.1	NONE	0.6

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.7
Total Sulphate as SO ₄	%	0.005	MCERTS	0.172
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	570
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	287
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	28
Total Sulphur	mg/kg	50	MCERTS	5500
Total Sulphur	%	0.005	MCERTS	0.547
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	4.6
Magnesium (water soluble)	mg/kg	5	NONE	9.1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-030087

Project / Site name: Mill Street, Calne

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
253582	BH01	1	1.00-1.00	Brown clay and sand with gravel
253583	BH01	14	14.00-14.45	Grey clay and sand with gravel
253584	BH02	7	7.00-7.00	Grey clay and sand with gravel
253585	BH02	17	17.00-17.45	Grey clay and sand with gravel
253586	BH03	4	4.00-4.45	Brown clay and sand with gravel
253587	BH03	9	9.00-9.00	Grey clay and sand with gravel

Analytical Report Number : 24-030087

Project / Site name: Mill Street, Calne

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078B	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

Appendix E – Chemical Results

T&P Regeneration□
Unit 5
Septimus
Hawkfield Business Park
BS14 0BN

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7 Woodshots Meadow,
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Business Park,
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Combined Report Mill Street, Calne

Project / Site name:	Mill Street, Calne	Samples received on:	08/07/2024
Your job number:	P1225	Samples instructed on/ Analysis started on:	10/07/2024
Your order number:	19316	Analysis completed by:	06/08/2024
Report Issue Number:	1	Report issued on:	21/08/2024
Samples Analysed:	8 soil samples		



Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-030001
Project / Site name: Mill Street, Calne
Your Order No: 19316

Lab Sample Number				277814	253249	253250	253251	253253
Sample Reference				WS03	WS01	WS01	WS02	WS04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.30	0.20-0.30	1.20-1.30	0.80-0.90	0.30-0.40
Date Sampled				02/07/2024	02/07/2024	02/07/2024	02/07/2024	02/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	14	15	16	7.8
Total mass of sample received	kg	0.1	NONE	0.8	0.9	0.5	0.5	0.8

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	Not-detected	-	Not-detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	-	SPU	-	SPU	SPU
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	Detected
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	< 0.001
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	Loose Fibres
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	9.3	8.6	8.7	8.5	10
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	970	54	96	400	1000
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	485	26.9	47.7	202	511
Organic Matter (automated)	%	0.1	MCERTS	2.9	1.1	1	4	1.6
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.7	0.6	0.6	2.3	0.9

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.18	< 0.05	< 0.05	0.06	0.44
Acenaphthylene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05	< 0.05	0.19
Acenaphthene	mg/kg	0.05	MCERTS	0.25	< 0.05	< 0.05	< 0.05	0.32
Fluorene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05	< 0.05	0.52
Phenanthrene	mg/kg	0.05	MCERTS	1.5	0.06	0.05	0.3	3.9
Anthracene	mg/kg	0.05	MCERTS	0.71	< 0.05	< 0.05	0.06	1.2
Fluoranthene	mg/kg	0.05	MCERTS	5.7	0.12	0.06	0.46	6.6
Pyrene	mg/kg	0.05	MCERTS	6.3	0.12	< 0.05	0.41	5.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.8	0.08	< 0.05	0.24	3.5
Chrysene	mg/kg	0.05	MCERTS	3.5	0.11	< 0.05	0.31	3.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	5.7	0.15	< 0.05	0.32	3.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.7	0.06	< 0.05	0.13	1.2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.5	0.11	< 0.05	0.27	3.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.4	0.09	< 0.05	0.16	1.6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.36
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.7	0.13	< 0.05	0.19	1.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	39.5	1.02	< 0.80	2.91	38
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	14	3.8	16	18
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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-030001
Project / Site name: Mill Street, Calne
Your Order No: 19316

Lab Sample Number				277814	253249	253250	253251	253253
Sample Reference				WS03	WS01	WS01	WS02	WS04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.30	0.20-0.30	1.20-1.30	0.80-0.90	0.30-0.40
Date Sampled				02/07/2024	02/07/2024	02/07/2024	02/07/2024	02/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2	0.36	0.38	0.8	0.56
Boron (water soluble)	mg/kg	0.2	MCERTS	4	0.3	0.6	3.5	3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.9	< 0.2	0.3	< 0.2	1.1
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	11	12	17	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	58	13	9.7	38	27
Lead (aqua regia extractable)	mg/kg	1	MCERTS	280	120	14	150	80
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	9.2	6.8	18	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	48	30	20	30	24
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230	100	48	150	200

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-030001
Project / Site name: Mill Street, Calne
Your Order No: 19316

Lab Sample Number				253254	253255	253256
Sample Reference				WS04	WS06	WS06
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.10-1.20	0.30-0.40	1.20-1.30
Date Sampled				02/07/2024	02/07/2024	02/07/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	22	7.8	23
Total mass of sample received	kg	0.1	NONE	0.4	0.9	0.5

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	Detected	-
Asbestos Analyst ID	N/A	N/A	N/A	-	SPU	-
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	Not-detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	Detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibres	-

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.6	8.2	8.8
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	260	470	200
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	128	233	102
Organic Matter (automated)	%	0.1	MCERTS	3.9	3.5	4.8
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.2	2	2.8

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	< 0.05	1.5
Acenaphthene	mg/kg	0.05	MCERTS	0.15	< 0.05	3.4
Fluorene	mg/kg	0.05	MCERTS	0.11	< 0.05	2.7
Phenanthrene	mg/kg	0.05	MCERTS	1.1	0.32	27
Anthracene	mg/kg	0.05	MCERTS	0.37	0.09	11
Fluoranthene	mg/kg	0.05	MCERTS	3.9	1	87
Pyrene	mg/kg	0.05	MCERTS	3.5	0.87	79
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.2	0.54	47
Chrysene	mg/kg	0.05	MCERTS	2	0.57	45
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.9	0.64	61
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.85	0.23	18
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.4	0.52	49
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	0.3	31
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.24	0.07	7
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.5	0.38	34

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	22.6	5.58	504
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	12	15
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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-030001
 Project / Site name: Mill Street, Calne
 Your Order No: 19316

Lab Sample Number				253254	253255	253256
Sample Reference				WS04	WS06	WS06
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.10-1.20	0.30-0.40	1.20-1.30
Date Sampled				02/07/2024	02/07/2024	02/07/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.74	0.59	0.7
Boron (water soluble)	mg/kg	0.2	MCERTS	3.5	2.5	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	0.6
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	13	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	50	36	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	98	59	100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	13	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	22	26
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100	82	190

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 24-030001
Project / Site name: Mill Street, Calne
Your Order No: 19316

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
253253	WS04	0.30-0.40	147	Loose Fibres	Amosite	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 24-030001

Project / Site name: Mill Street, Calne

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
277814	WS03	None Supplied	0.20-0.30	Brown clay and sand with gravel
253249	WS01	None Supplied	0.20-0.30	Brown loam and gravel
253250	WS01	None Supplied	1.20-1.30	Brown loam and gravel
253251	WS02	None Supplied	0.80-0.90	Brown loam and gravel
253253	WS04	None Supplied	0.30-0.40	Brown loam and gravel
253254	WS04	None Supplied	1.10-1.20	Brown loam and gravel
253255	WS06	None Supplied	0.30-0.40	Brown loam and gravel
253256	WS06	None Supplied	1.20-1.30	Brown loam and gravel

Analytical Report Number : 24-030001
Project / Site name: Mill Street, Calne

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

Analytical Report Number : 24-034539

Project / Site name: Mill Street, Calne

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS03	N/A	S	277814	c	Hexavalent chromium in soil	L080	c
WS03	N/A	S	277814	c	Monohydric phenols in soil	L080	c
WS03	N/A	S	277814	c	Organic matter (Automated) in soil	L009B	c
WS03	N/A	S	277814	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS03	N/A	S	277814	c	Total organic carbon (Automated) in soil	L009B	c
WS03	N/A	S	277814	c	pH in soil (automated)	L099	c

End Use Scenario	SOM	Code	(All)
Residential without Home Grown Produce	1.0%	Code2	(All)
		St. Ref	(All)

CS-2381
HUMAN HEALTH
ASSESSMENT



Min Value (mg/kg)	Max Value (mg/kg)	Count Values	No. of Exceed - ances	Screen Level (mg/kg)	Location ID			WS01		WS03	WS04		WS06		WS02
					Depth Top and Base (m)			0.2	1.2	0.2	0.3	1.1	0.3	1.2	0.8
					Ref.	Group	Contaminant Reported	0.3	1.3	0.3	0.4	1.2	0.4	1.3	0.9
3.80	21.00	8	-	40	1.01	Heavy Metals	Arsenic	14.00	3.80	21.00	18.00	11.00	12.00	15.00	16.00
0.36	1.20	8	-	1.7	1.02	Heavy Metals	Beryllium	0.36	0.38	1.20	0.56	0.74	0.59	0.70	0.80
0.20	1.10	8	-	150	1.03	Heavy Metals	Cadmium	0.20	0.30	0.90	1.10	0.40	0.20	0.60	0.20
11.00	25.00	8	-	910	1.04	Heavy Metals	Chromium	11.00	12.00	25.00	14.00	17.00	13.00	14.00	17.00
14.00	280.00	8	-	310	1.05	Heavy Metals	Lead	120.00	14.00	280.00	80.00	98.00	59.00	100.00	150.00
0.30	0.30	8	-	56	1.06	Heavy Metals	Mercury	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
6.80	22.00	8	-	180	1.07	Heavy Metals	Nickel	9.20	6.80	22.00	11.00	15.00	13.00	15.00	18.00
1.00	1.00	8	-	430	1.08	Heavy Metals	Selenium	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20.00	48.00	8	-	1200	1.09	Heavy Metals	Vanadium	30.00	20.00	48.00	24.00	28.00	22.00	26.00	30.00
0.30	4.00	8	-	11000	2.01	Inorganics	Water Soluble Boron	0.30	0.60	4.00	3.00	3.50	2.50	0.70	3.50
1.80	1.80	8	-	21	2.02	Inorganics	Hexavalent Chromium	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
9.70	58.00	8	-	7100	3.01	Phytotoxic Metals	Copper	13.00	9.70	58.00	27.00	50.00	36.00	22.00	38.00
48.00	230.00	8	-	40000	3.02	Phytotoxic Metals	Zinc	100.00	48.00	230.00	200.00	100.00	82.00	190.00	150.00
1.00	1.00	8	-	750	4.01	Phenols	Phenol	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.05	0.44	8	-	15	5.01	PAHs	Naphthalene	0.05	0.05	0.18	0.44	0.05	0.05	0.05	0.06
0.05	1.50	8	-	2900	5.02	PAHs	Acenaphthylene	0.05	0.05	0.22	0.19	0.07	0.05	1.50	0.05
0.05	3.40	8	-	3000	5.03	PAHs	Acenaphthene	0.05	0.05	0.25	0.32	0.15	0.05	3.40	0.05
0.05	2.70	8	-	2800	5.04	PAHs	Fluorene	0.05	0.05	0.22	0.52	0.11	0.05	2.70	0.05
0.05	27.00	8	-	1300	5.05	PAHs	Phenanthrene	0.06	0.05	1.50	3.90	1.10	0.32	27.00	0.30
0.05	11.00	8	-	31000	5.06	PAHs	Anthracene	0.05	0.05	0.71	1.20	0.37	0.09	11.00	0.06
0.06	87.00	8	-	1500	5.07	PAHs	Fluoranthene	0.12	0.06	5.70	6.60	3.90	1.00	87.00	0.46
0.05	79.00	8	-	3700	5.08	PAHs	Pyrene	0.12	0.05	6.30	5.80	3.50	0.87	79.00	0.41
0.05	47.00	8	1	11	5.09	PAHs	Benzo[a]anthracene	0.08	0.05	3.80	3.50	2.20	0.54	47.00	0.24
0.05	45.00	8	1	30	5.10	PAHs	Chrysene	0.11	0.05	3.50	3.40	2.00	0.57	45.00	0.31
0.05	61.00	8	2	3.9	5.11	PAHs	Benzo[b]fluoranthene	0.15	0.05	5.70	3.80	2.90	0.64	61.00	0.32
0.05	18.00	8	-	110	5.12	PAHs	Benzo[k]fluoranthene	0.06	0.05	1.70	1.20	0.85	0.23	18.00	0.13
0.05	49.00	8	1	5.3	5.13	PAHs	Benzo[a]pyrene	0.11	0.05	4.50	3.40	2.40	0.52	49.00	0.27
0.05	31.00	8	-	45	5.14	PAHs	Indeno[1,2,3-cd]pyrene	0.09	0.05	2.40	1.60	1.30	0.30	31.00	0.16
0.05	7.00	8	2	0.31	5.15	PAHs	Dibenz[a,h]anthracene	0.05	0.05	0.05	0.36	0.24	0.07	7.00	0.05
0.05	34.00	8	-	360	5.16	PAHs	Benzo[ghi]perylene	0.13	0.05	2.70	1.80	1.50	0.38	34.00	0.19

End Use Scenario
Phytotoxic

Code	(All)
Code2	(All)
St. Ref	(All)

**CS-2381
PHYTOTOXIC
REPORT**



Min Value	Max Value	Count Values	No. of Exceed - ances	Screen Level	Location ID			WS01		WS03	WS04		WS06		WS02
					Depth Top and Base			0.2	1.2	0.2	0.3	1.1	0.3	1.2	0.8
					Ref.	Group	Contaminant Reported	0.3	1.3	0.3	0.4	1.2	0.4	1.3	0.9
0.20	1.10	8	-	8	1.03	Heavy Metals	Cadmium	0.20	0.30	0.90	1.10	0.40	0.20	0.60	0.20
11.00	25.00	8	-	154	1.04	Heavy Metals	Chromium	11.00	12.00	25.00	14.00	17.00	13.00	14.00	17.00
0.30	0.30	8	-	28	1.06	Heavy Metals	Mercury	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
6.80	22.00	8	-	70	1.07	Heavy Metals	Nickel	9.20	6.80	22.00	11.00	15.00	13.00	15.00	18.00
1.00	1.00	8	-	10	1.08	Heavy Metals	Selenium	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.30	4.00	8	3	3	2.01	Inorganics	Water Soluble Boron	0.30	0.60	4.00	3.00	3.50	2.50	0.70	3.50
9.70	58.00	8	-	130	3.01	Phytotoxic Metals	Copper	13.00	9.70	58.00	27.00	50.00	36.00	22.00	38.00
48.00	230.00	8	-	300	3.02	Phytotoxic Metals	Zinc	100.00	48.00	230.00	200.00	100.00	82.00	190.00	150.00

Geology Code	(All)
Geology Code2	(All)
Stratum Reference	(All)

CS-2381

ASBESTOS

REPORT



Location ID Depth Top and Base	WS01	WS04	WS06	WS02	Grand Total
	0.2	0.3	0.3	0.8	
Not-detected	1			1	2
Detected		1	1		2
Grand Total	1	1	1	1	4

Appendix F – Hazwaste Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



KN7JN-2IJNW-05F60

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

Mill Street, Calne

Description/Comments

Project

P1225/CS-2381

Site

Mill Street, Calne

Classified by

Name:

Matthew Carr

Date:

22 Aug 2024 09:24 GMT

Telephone:

0117 927 7756

Company:

T&P Regeneration Ltd

Unit 5, Septimus

Hawkfield Business Park

Bristol

BS14 0BN

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification

Date

09 Dec 2021

Next 3 year Refresher due by Dec 2024

Purpose of classification

2 - Material Characterisation

Address of the waste

22-24 Mill Street, Calne, Wiltshire

Post Code SN11 0HT

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Development of site.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the excavation of soils for development.

Description of the waste

Natural clay/sands and gravels and made ground.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01--02072024-0.20		Non Hazardous		3
2	WS01--02072024-1.20		Non Hazardous		5
3	WS02--02072024-0.80		Non Hazardous		7
4	WS04--02072024-0.30		Non Hazardous		9
5	WS04--02072024-1.10		Non Hazardous		11
6	WS06--02072024-0.30		Non Hazardous		13
7	WS06--02072024-1.20		Non Hazardous		15
8	WS03--02072024-0.20		Non Hazardous		17

Related documents

#	Name	Description
1	Combined HWOL_HWOL.hwol	i2 Analytical .hwol file used to populate the Job

Report

Created by: Matthew Carr

Created date: 22 Aug 2024 09:24 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	19
Appendix B: Rationale for selection of metal species	20
Appendix C: Version	21

Classification of sample: WS01--02072024-0.20

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS01--02072024-0.20	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
14%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				8.6 pH		8.6 pH	8.6 pH		
			PH							
4	boron { diboron trioxide }				0.3 mg/kg	3.22	0.831 mg/kg	0.0000831 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	14 mg/kg		12.04 mg/kg	0.0012 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.36 mg/kg	8.868	2.746 mg/kg	0.000275 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				13 mg/kg	1.74	19.451 mg/kg	0.00195 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				9.2 mg/kg	1.546	12.234 mg/kg	0.00122 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	120 mg/kg		103.2 mg/kg	0.0103 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				30 mg/kg	1.785	46.058 mg/kg	0.00461 %	✓		
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				100 mg/kg	2.469	212.359 mg/kg	0.0212 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				0.06 mg/kg		0.0516 mg/kg	0.00000516 %	✓		
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				0.12 mg/kg		0.103 mg/kg	0.0000103 %	✓		
		205-912-4	206-44-0								
22	pyrene				0.12 mg/kg		0.103 mg/kg	0.0000103 %	✓		
		204-927-3	129-00-0								
23	benzo[a]anthracene				0.08 mg/kg		0.0688 mg/kg	0.00000688 %	✓		
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				0.11 mg/kg		0.0946 mg/kg	0.00000946 %	✓		
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				0.11 mg/kg		0.0946 mg/kg	0.00000946 %	✓		
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				0.09 mg/kg		0.0774 mg/kg	0.00000774 %	✓		
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				0.13 mg/kg		0.112 mg/kg	0.0000112 %	✓		
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				11 mg/kg	1.462	16.077 mg/kg	0.00161 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				0.21 mg/kg		0.181 mg/kg	0.0000181 %	✓		
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0433 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS01--02072024-1.20

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS01--02072024-1.20	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
15%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				8.7 pH		8.7 pH	8.7 pH		
			PH							
4	boron { diboron trioxide }				0.6 mg/kg	3.22	1.642 mg/kg	0.000164 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	3.8 mg/kg		3.23 mg/kg	0.000323 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.38 mg/kg	8.868	2.864 mg/kg	0.000286 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	0.3 mg/kg		0.255 mg/kg	0.0000255 %	✓	
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				9.7 mg/kg	1.74	14.345 mg/kg	0.00143 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				6.8 mg/kg	1.546	8.938 mg/kg	0.000894 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	14 mg/kg		11.9 mg/kg	0.00119 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				20 mg/kg	1.785	30.348 mg/kg	0.00303 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				48 mg/kg	2.469	100.747 mg/kg	0.0101 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				0.05 mg/kg		0.0425 mg/kg	0.00000425 %		✓	
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				0.06 mg/kg		0.051 mg/kg	0.0000051 %		✓	
		205-912-4	206-44-0								
22	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				12 mg/kg	1.462	17.539 mg/kg	0.00175 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0199 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS02--02072024-0.80

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS02--02072024-0.80	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
16%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				8.5 pH		8.5 pH	8.5 pH		
			PH							
4	boron { diboron trioxide }				3.5 mg/kg	3.22	9.466 mg/kg	0.000947 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	16 mg/kg		13.44 mg/kg	0.00134 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.8 mg/kg	8.868	5.959 mg/kg	0.000596 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				38 mg/kg	1.74	55.534 mg/kg	0.00555 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				18 mg/kg	1.546	23.38 mg/kg	0.00234 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	150 mg/kg		126 mg/kg	0.0126 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				30 mg/kg	1.785	44.987 mg/kg	0.0045 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				150 mg/kg	2.469	311.131 mg/kg	0.0311 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				0.06 mg/kg		0.0504 mg/kg	0.0000504 %		✓	
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				0.3 mg/kg		0.252 mg/kg	0.0000252 %		✓	
		201-581-5	85-01-8								
20	anthracene				0.06 mg/kg		0.0504 mg/kg	0.0000504 %		✓	
		204-371-1	120-12-7								
21	fluoranthene				0.46 mg/kg		0.386 mg/kg	0.0000386 %		✓	
		205-912-4	206-44-0								
22	pyrene				0.41 mg/kg		0.344 mg/kg	0.0000344 %		✓	
		204-927-3	129-00-0								
23	benzo[a]anthracene				0.24 mg/kg		0.202 mg/kg	0.0000202 %		✓	
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				0.31 mg/kg		0.26 mg/kg	0.000026 %		✓	
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				0.27 mg/kg		0.227 mg/kg	0.0000227 %		✓	
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				0.16 mg/kg		0.134 mg/kg	0.0000134 %		✓	
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				0.19 mg/kg		0.16 mg/kg	0.000016 %		✓	
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17 mg/kg	1.462	24.846 mg/kg	0.00248 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				0.45 mg/kg		0.378 mg/kg	0.0000378 %		✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0624 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS04--02072024-0.30

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS04--02072024-0.30	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
7.8%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.8% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				10 pH		10 pH	10pH		
			PH							
4	boron { diboron trioxide }				3 mg/kg	3.22	8.906 mg/kg	0.000891 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	18 mg/kg		16.596 mg/kg	0.00166 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.56 mg/kg	8.868	4.579 mg/kg	0.000458 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	1.1 mg/kg		1.014 mg/kg	0.000101 %	✓	
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				27 mg/kg	1.74	43.31 mg/kg	0.00433 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				11 mg/kg	1.546	15.683 mg/kg	0.00157 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	80 mg/kg		73.76 mg/kg	0.00738 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg		<0.000141 %		<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				24 mg/kg	1.785	39.503 mg/kg		0.00395 %	✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				200 mg/kg	2.469	455.338 mg/kg		0.0455 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				0.44 mg/kg		0.406 mg/kg		0.0000406 %	✓	
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				0.19 mg/kg		0.175 mg/kg		0.0000175 %	✓	
		205-917-1	208-96-8								
17	acenaphthene				0.32 mg/kg		0.295 mg/kg		0.0000295 %	✓	
		201-469-6	83-32-9								
18	fluorene				0.52 mg/kg		0.479 mg/kg		0.0000479 %	✓	
		201-695-5	86-73-7								
19	phenanthrene				3.9 mg/kg		3.596 mg/kg		0.00036 %	✓	
		201-581-5	85-01-8								
20	anthracene				1.2 mg/kg		1.106 mg/kg		0.000111 %	✓	
		204-371-1	120-12-7								
21	fluoranthene				6.6 mg/kg		6.085 mg/kg		0.000609 %	✓	
		205-912-4	206-44-0								
22	pyrene				5.8 mg/kg		5.348 mg/kg		0.000535 %	✓	
		204-927-3	129-00-0								
23	benzo[a]anthracene				3.5 mg/kg		3.227 mg/kg		0.000323 %	✓	
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				3.4 mg/kg		3.135 mg/kg		0.000313 %	✓	
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				3.4 mg/kg		3.135 mg/kg		0.000313 %	✓	
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				1.6 mg/kg		1.475 mg/kg		0.000148 %	✓	
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				0.36 mg/kg		0.332 mg/kg		0.0000332 %	✓	
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				1.8 mg/kg		1.66 mg/kg		0.000166 %	✓	
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				14 mg/kg	1.462	20.462 mg/kg		0.00205 %		
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				5 mg/kg		4.61 mg/kg		0.000461 %	✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
31	asbestos				<0.001 %		<0.001 %		<0.001 %		<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5								
Total:									0.0731 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS04--02072024-1.10

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS04--02072024-1.10	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
22%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 22% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				8.6 pH		8.6 pH	8.6 pH		
			PH							
4	boron { diboron trioxide }				3.5 mg/kg	3.22	8.79 mg/kg	0.000879 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	11 mg/kg		8.58 mg/kg	0.000858 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.74 mg/kg	8.868	5.119 mg/kg	0.000512 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	0.4 mg/kg		0.312 mg/kg	0.0000312 %	✓	
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				50 mg/kg	1.74	67.852 mg/kg	0.00679 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				15 mg/kg	1.546	18.092 mg/kg	0.00181 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	98 mg/kg		76.44 mg/kg	0.00764 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				28 mg/kg	1.785	38.988 mg/kg	0.0039 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
14	zinc { zinc sulphate }				100 mg/kg	2.469	192.605 mg/kg	0.0193 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
15	naphthalene				0.05 mg/kg		0.039 mg/kg	0.0000039 %	✓	
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				0.07 mg/kg		0.0546 mg/kg	0.00000546 %	✓	
		205-917-1	208-96-8							
17	acenaphthene				0.15 mg/kg		0.117 mg/kg	0.0000117 %	✓	
		201-469-6	83-32-9							
18	fluorene				0.11 mg/kg		0.0858 mg/kg	0.00000858 %	✓	
		201-695-5	86-73-7							
19	phenanthrene				1.1 mg/kg		0.858 mg/kg	0.0000858 %	✓	
		201-581-5	85-01-8							
20	anthracene				0.37 mg/kg		0.289 mg/kg	0.0000289 %	✓	
		204-371-1	120-12-7							
21	fluoranthene				3.9 mg/kg		3.042 mg/kg	0.000304 %	✓	
		205-912-4	206-44-0							
22	pyrene				3.5 mg/kg		2.73 mg/kg	0.000273 %	✓	
		204-927-3	129-00-0							
23	benzo[a]anthracene				2.2 mg/kg		1.716 mg/kg	0.000172 %	✓	
	601-033-00-9	200-280-6	56-55-3							
24	chrysene				2 mg/kg		1.56 mg/kg	0.000156 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	benzo[a]pyrene; benzo[def]chrysene				2.4 mg/kg		1.872 mg/kg	0.000187 %	✓	
	601-032-00-3	200-028-5	50-32-8							
26	indeno[123-cd]pyrene				1.3 mg/kg		1.014 mg/kg	0.000101 %	✓	
		205-893-2	193-39-5							
27	dibenz[a,h]anthracene				0.24 mg/kg		0.187 mg/kg	0.0000187 %	✓	
	601-041-00-2	200-181-8	53-70-3							
28	benzo[ghi]perylene				1.5 mg/kg		1.17 mg/kg	0.000117 %	✓	
		205-883-8	191-24-2							
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17 mg/kg	1.462	24.846 mg/kg	0.00248 %		
		215-160-9	1308-38-9							
30	benzo[bk]fluoranthene				3.75 mg/kg		2.925 mg/kg	0.000293 %	✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9							
Total:								0.0466 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS06--02072024-0.30

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS06--02072024-0.30	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
7.8%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.8% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				8.2 pH		8.2 pH	8.2 pH		
			PH							
4	boron { diboron trioxide }				2.5 mg/kg	3.22	7.422 mg/kg	0.000742 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	12 mg/kg		11.064 mg/kg	0.00111 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.59 mg/kg	8.868	4.824 mg/kg	0.000482 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				36 mg/kg	1.74	57.747 mg/kg	0.00577 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				13 mg/kg	1.546	18.534 mg/kg	0.00185 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	59 mg/kg		54.398 mg/kg	0.00544 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				22 mg/kg	1.785	36.211 mg/kg	0.00362 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
14	zinc { zinc sulphate }				82 mg/kg	2.469	186.689 mg/kg	0.0187 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
19	phenanthrene				0.32 mg/kg		0.295 mg/kg	0.0000295 %	✓	
		201-581-5	85-01-8							
20	anthracene				0.09 mg/kg		0.083 mg/kg	0.0000083 %	✓	
		204-371-1	120-12-7							
21	fluoranthene				1 mg/kg		0.922 mg/kg	0.0000922 %	✓	
		205-912-4	206-44-0							
22	pyrene				0.87 mg/kg		0.802 mg/kg	0.0000802 %	✓	
		204-927-3	129-00-0							
23	benzo[a]anthracene				0.54 mg/kg		0.498 mg/kg	0.0000498 %	✓	
	601-033-00-9	200-280-6	56-55-3							
24	chrysene				0.57 mg/kg		0.526 mg/kg	0.0000526 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	benzo[a]pyrene; benzo[def]chrysene				0.52 mg/kg		0.479 mg/kg	0.0000479 %	✓	
	601-032-00-3	200-028-5	50-32-8							
26	indeno[123-cd]pyrene				0.3 mg/kg		0.277 mg/kg	0.0000277 %	✓	
		205-893-2	193-39-5							
27	dibenz[a,h]anthracene				0.07 mg/kg		0.0645 mg/kg	0.00000645 %	✓	
	601-041-00-2	200-181-8	53-70-3							
28	benzo[ghi]perylene				0.38 mg/kg		0.35 mg/kg	0.000035 %	✓	
		205-883-8	191-24-2							
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				13 mg/kg	1.462	19 mg/kg	0.0019 %		
		215-160-9	1308-38-9							
30	benzo[bk]fluoranthene				0.87 mg/kg		0.802 mg/kg	0.0000802 %	✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9							
Total:								0.0408 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS06--02072024-1.20

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name: **WS06--02072024-1.20** LoW Code: **17: Construction and Demolition Wastes (including excavated soil from contaminated sites)**
Moisture content: **23%** Chapter: **17 05 04 (Soil and stones other than those mentioned in 17 05 03)**
(wet weight correction) Entry:

Hazard properties

None identified

Determinands

Moisture content: 23% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH		PH		8.8 pH		8.8 pH	8.8 pH		
4	boron { diboron trioxide }				0.7 mg/kg	3.22	1.736 mg/kg	0.000174 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	15 mg/kg		11.55 mg/kg	0.00115 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.7 mg/kg	8.868	4.78 mg/kg	0.000478 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	0.6 mg/kg		0.462 mg/kg	0.0000462 %	✓	
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				22 mg/kg	1.74	29.472 mg/kg	0.00295 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				15 mg/kg	1.546	17.86 mg/kg	0.00179 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	100 mg/kg		77 mg/kg	0.0077 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				26 mg/kg	1.785	35.739 mg/kg	0.00357 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				190 mg/kg	2.469	361.258 mg/kg	0.0361 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				1.5 mg/kg		1.155 mg/kg	0.000116 %		✓	
		205-917-1	208-96-8								
17	acenaphthene				3.4 mg/kg		2.618 mg/kg	0.000262 %		✓	
		201-469-6	83-32-9								
18	fluorene				2.7 mg/kg		2.079 mg/kg	0.000208 %		✓	
		201-695-5	86-73-7								
19	phenanthrene				27 mg/kg		20.79 mg/kg	0.00208 %		✓	
		201-581-5	85-01-8								
20	anthracene				11 mg/kg		8.47 mg/kg	0.000847 %		✓	
		204-371-1	120-12-7								
21	fluoranthene				87 mg/kg		66.99 mg/kg	0.0067 %		✓	
		205-912-4	206-44-0								
22	pyrene				79 mg/kg		60.83 mg/kg	0.00608 %		✓	
		204-927-3	129-00-0								
23	benzo[a]anthracene				47 mg/kg		36.19 mg/kg	0.00362 %		✓	
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				45 mg/kg		34.65 mg/kg	0.00347 %		✓	
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				49 mg/kg		37.73 mg/kg	0.00377 %		✓	
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				31 mg/kg		23.87 mg/kg	0.00239 %		✓	
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				7 mg/kg		5.39 mg/kg	0.000539 %		✓	
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				34 mg/kg		26.18 mg/kg	0.00262 %		✓	
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				14 mg/kg	1.462	20.462 mg/kg	0.00205 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				79 mg/kg		60.83 mg/kg	0.00608 %		✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0955 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS03--02072024-0.20

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS03--02072024-0.20	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
12%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				9.3 pH		9.3 pH	9.3 pH		
			PH							
4	boron { diboron trioxide }				4 mg/kg	3.22	11.334 mg/kg	0.00113 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	21 mg/kg		18.48 mg/kg	0.00185 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				1.2 mg/kg	8.868	9.365 mg/kg	0.000936 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	0.9 mg/kg		0.792 mg/kg	0.0000792 %	✓	
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				58 mg/kg	1.74	88.799 mg/kg	0.00888 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	0.3 mg/kg		0.264 mg/kg	0.0000264 %	✓	
	080-002-00-6									
10	nickel { nickel sulfide }				22 mg/kg	1.546	29.937 mg/kg	0.00299 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	280 mg/kg		246.4 mg/kg	0.0246 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				48 mg/kg	1.785	75.406 mg/kg	0.00754 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				230 mg/kg	2.469	499.786 mg/kg	0.05 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				0.18 mg/kg		0.158 mg/kg	0.0000158 %		✓	
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				0.22 mg/kg		0.194 mg/kg	0.0000194 %		✓	
		205-917-1	208-96-8								
17	acenaphthene				0.25 mg/kg		0.22 mg/kg	0.000022 %		✓	
		201-469-6	83-32-9								
18	fluorene				0.22 mg/kg		0.194 mg/kg	0.0000194 %		✓	
		201-695-5	86-73-7								
19	phenanthrene				1.5 mg/kg		1.32 mg/kg	0.000132 %		✓	
		201-581-5	85-01-8								
20	anthracene				0.71 mg/kg		0.625 mg/kg	0.0000625 %		✓	
		204-371-1	120-12-7								
21	fluoranthene				5.7 mg/kg		5.016 mg/kg	0.000502 %		✓	
		205-912-4	206-44-0								
22	pyrene				6.3 mg/kg		5.544 mg/kg	0.000554 %		✓	
		204-927-3	129-00-0								
23	benzo[a]anthracene				3.8 mg/kg		3.344 mg/kg	0.000334 %		✓	
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				3.5 mg/kg		3.08 mg/kg	0.000308 %		✓	
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				4.5 mg/kg		3.96 mg/kg	0.000396 %		✓	
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				2.4 mg/kg		2.112 mg/kg	0.000211 %		✓	
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				2.7 mg/kg		2.376 mg/kg	0.000238 %		✓	
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				25 mg/kg	1.462	36.539 mg/kg	0.00365 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				7.4 mg/kg		6.512 mg/kg	0.000651 %		✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.106 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

Hazard Statements: Muta. 2; H341, Acute Tox. 3; H331, Acute Tox. 3; H311, Acute Tox. 3; H301, STOT RE 2; H373, Skin Corr. 1B; H314, Skin Corr. 1B; H314 >= 3 %, Skin Irrit. 2; H315 1 <= conc. < 3 %, Eye Irrit. 2; H319 1 <= conc. < 3 %, Aquatic Chronic 2; H411

pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

arsenic compounds, with the exception of those specified elsewhere in this Annex

GB MCL index number: 033-002-00-5

Description/Comments: Worst Case: IARC considers arsenic compounds Group 1; Carcinogenic to humans

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

beryllium chloride (CAS Number: 7787-47-5)

Description/Comments: Data from C&L Inventory Database; No entries in Registered Substances Database, IARC or Pesticide Properties Database

Data source: <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=27264&HarmOnly=no?fc=true&lang=en>

Data source date: 02 Jun 2014

Hazard Statements: Acute Tox. 3; H301, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Carc. 1B; H350, STOT RE 1; H372, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex

GB MCL index number: 048-001-00-5

Description/Comments: Worst Case: IARC considers cadmium compounds Group 1; Carcinogenic to humans

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

lead compounds with the exception of those specified elsewhere in this Annex (worst case)

GB MCL index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

• **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

• **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **benzo[bk]fluoranthene** (EC Number: [1] 205-911-9 [2] 205-916-6, CAS Number: [1] 205-99-2 [2] 207-08-9)

Description/Comments: Combined data from harmonised entries in CLP for benzo[b] and benzo[k]fluoranthene; C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Carc. 1B; H350 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

Appendix B: Rationale for selection of metal species

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case.

boron {diboron trioxide}

Based upon material type it is considered to be the most likely worst case compound.

arsenic {arsenic compounds, with the exception of those specified elsewhere in this Annex}

Most likely based upon material type and environmental conditions.

beryllium {beryllium chloride}

Worst case.

cadmium {cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex}

Most likely based upon the material type and environmental conditions.

copper {copper(II) carbonate – copper(II) hydroxide (1:1)}

Based upon material type it is considered to be the most likely worst case compound.

mercury {inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex}

Based upon material type it is considered to be the most likely worst case compound.

nickel {nickel sulfide}

Based upon material type it is considered to be the most likely worst case compound.

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Based upon material type it is considered to be the most likely worst case compound.

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Based upon material type it is considered to be the most likely worst case compound.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Based upon material type it is considered to be the most likely worst case compound.

zinc {zinc sulphate}

Based upon material type it is considered to be the most likely worst case compound.

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Worst case.

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2024.229.6218.11418 (17 Aug 2024)

HazWasteOnline Database: 2024.229.6218.11418 (17 Aug 2024)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

GB MCL List v2.0 - version 2.0 of 20th October 2023

GB MCL List v3.0 - version 3.0 of 11th January 2024

GB MCL List v4.0 - version 4.0 of 2nd March 2024

GB MCL List v5.0 - version 5.0 of 26th June 2024

Appendix G – Environmental Database Report

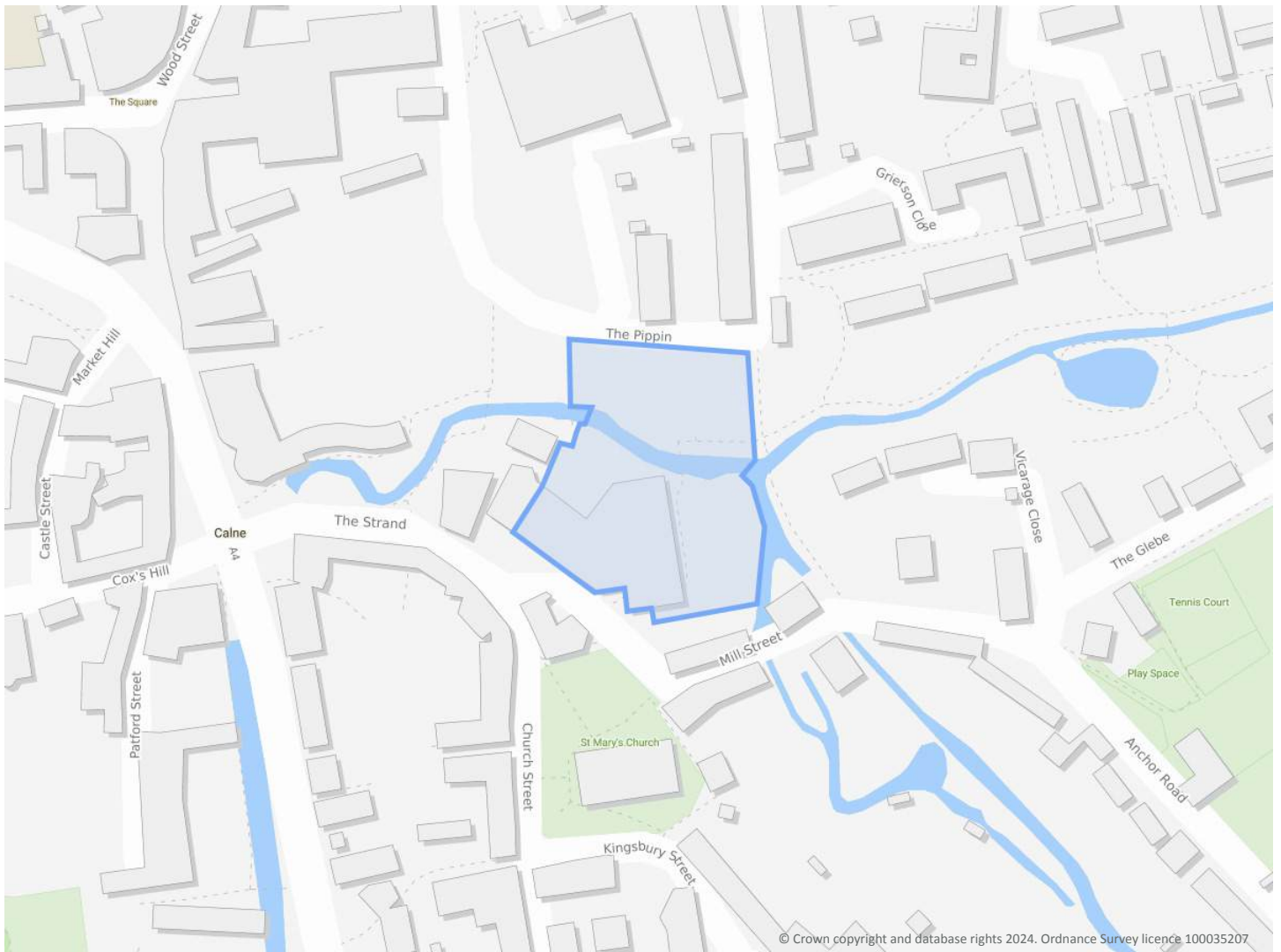
Mill Street, Calne

Order Details

Date: 29/07/2024
Your ref: 19356
Our Ref: GS-TB9-T7T-X6A-K8U

Site Details

Location: 399909 171017
Area: 0.79 ha
Authority: [Wiltshire Council](#) ↗



Summary of findings

[p. 2 >](#) **Aerial image**

[p. 9 >](#)

OS MasterMap site plan

[p.14 >](#) [Insight User Guide](#) ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	3	10	45	-
18 >	1.2 >	Historical tanks >	0	0	5	14	-
19 >	1.3 >	Historical energy features >	0	0	5	45	-
21	1.4	Historical petrol stations	0	0	0	0	-
21 >	1.5 >	Historical garages >	0	0	2	1	-
22	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
23 >	2.1 >	Historical industrial land uses >	0	3	12	51	-
26 >	2.2 >	Historical tanks >	0	0	7	14	-
27 >	2.3 >	Historical energy features >	0	0	15	113	-
32	2.4	Historical petrol stations	0	0	0	0	-
32 >	2.5 >	Historical garages >	0	0	3	2	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
33	3.1	Active or recent landfill	0	0	0	0	-
33	3.2	Historical landfill (BGS records)	0	0	0	0	-
34	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
34	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
34	3.5	Historical waste sites	0	0	0	0	-
34	3.6	Licensed waste sites	0	0	0	0	-
34 >	3.7 >	Waste exemptions >	0	1	0	18	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
37 >	4.1 >	Recent industrial land uses >	0	1	14	-	-
38 >	4.2 >	Current or recent petrol stations >	0	0	1	1	-
39	4.3	Electricity cables	0	0	0	0	-
39	4.4	Gas pipelines	0	0	0	0	-
39	4.5	Sites determined as Contaminated Land	0	0	0	0	-



39	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
40	4.7	Regulated explosive sites	0	0	0	0	-
40	4.8	Hazardous substance storage/usage	0	0	0	0	-
40	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
40	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
40 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	1	1	-
41	4.12	Radioactive Substance Authorisations	0	0	0	0	-
41 >	4.13 >	Licensed Discharges to controlled waters >	0	1	1	14	-
44	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
44	4.15	Pollutant release to public sewer	0	0	0	0	-
44	4.16	List 1 Dangerous Substances	0	0	0	0	-
44	4.17	List 2 Dangerous Substances	0	0	0	0	-
44 >	4.18 >	Pollution Incidents (EA/NRW) >	0	3	1	4	-
45	4.19	Pollution inventory substances	0	0	0	0	-
46	4.20	Pollution inventory waste transfers	0	0	0	0	-
46	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
47 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
49 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
51 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
53 >	5.4 >	Groundwater vulnerability- soluble rock risk >	Identified (within 0m)				
53	5.5	Groundwater vulnerability- local information	None (within 0m)				
54 >	5.6 >	Groundwater abstractions >	0	1	0	0	7
56 >	5.7 >	Surface water abstractions >	0	0	0	0	9
58	5.8	Potable abstractions	0	0	0	0	0
59	5.9	Source Protection Zones	0	0	0	0	-
59	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
60 >	6.1 >	Water Network (OS MasterMap) >	1	9	10	-	-



62 >	6.2 >	Surface water features >	1	2	1	-	-
62 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
63 >	6.4 >	WFD Surface water bodies >	1	0	0	-	-
63 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
64 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
65 >	7.2 >	Historical Flood Events >	2	1	4	-	-
66 >	7.3 >	Flood Defences >	0	11	1	-	-
66	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
67	7.5	Flood Storage Areas	0	0	0	-	-
68 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
69 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
70 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
72 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
73	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
73	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
73	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
73	10.4	Special Protection Areas (SPA)	0	0	0	0	0
74	10.5	National Nature Reserves (NNR)	0	0	0	0	0
74	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
74	10.7	Designated Ancient Woodland	0	0	0	0	0
74	10.8	Biosphere Reserves	0	0	0	0	0
75	10.9	Forest Parks	0	0	0	0	0
75	10.10	Marine Conservation Zones	0	0	0	0	0
75	10.11	Green Belt	0	0	0	0	0
75	10.12	Proposed Ramsar sites	0	0	0	0	0



75	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
76	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
76	10.15	Nitrate Sensitive Areas	0	0	0	0	0
76 >	10.16 >	Nitrate Vulnerable Zones >	2	0	0	0	2
77 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
78	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
79	11.1	World Heritage Sites	0	0	0	-	-
80	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
80	11.3	National Parks	0	0	0	-	-
80 >	11.4 >	Listed Buildings >	0	15	115	-	-
85 >	11.5 >	Conservation Areas >	1	0	0	-	-
86	11.6	Scheduled Ancient Monuments	0	0	0	-	-
86	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
87 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
88	12.2	Open Access Land	0	0	0	-	-
88	12.3	Tree Felling Licences	0	0	0	-	-
88	12.4	Environmental Stewardship Schemes	0	0	0	-	-
88	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
89 >	13.1 >	Priority Habitat Inventory >	0	1	5	-	-
90	13.2	Habitat Networks	0	0	0	-	-
90	13.3	Open Mosaic Habitat	0	0	0	-	-
90	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
91 >	14.1 >	10k Availability >	Identified (within 500m)				
92	14.2	Artificial and made ground (10k)	0	0	0	0	-
93	14.3	Superficial geology (10k)	0	0	0	0	-

93	14.4	Landslip (10k)	0	0	0	0	-
94	14.5	Bedrock geology (10k)	0	0	0	0	-
94	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
95 >	15.1 >	50k Availability >	Identified (within 500m)				
96	15.2	Artificial and made ground (50k)	0	0	0	0	-
96	15.3	Artificial ground permeability (50k)	0	0	-	-	-
97 >	15.4 >	Superficial geology (50k) >	1	0	0	0	-
98 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
98	15.6	Landslip (50k)	0	0	0	0	-
98	15.7	Landslip permeability (50k)	None (within 50m)				
99 >	15.8 >	Bedrock geology (50k) >	1	0	0	2	-
100 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
100	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
101 >	16.1 >	BGS Boreholes >	0	9	27	-	-
Page	Section	Natural ground subsidence >					
104 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
106 >	17.2 >	Running sands >	Low (within 50m)				
108 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
110 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
112 >	17.5 >	Landslides >	Very low (within 50m)				
114 >	17.6 >	Ground dissolution of soluble rocks >	Low (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
116 >	18.1 >	BritPits >	0	0	0	4	-
117 >	18.2 >	Surface ground workings >	0	1	9	-	-
118	18.3	Underground workings	0	0	0	0	0
118	18.4	Underground mining extents	0	0	0	0	-
118	18.5	Historical Mineral Planning Areas	0	0	0	0	-



119	18.6	Non-coal mining	0	0	0	0	0
119	18.7	JPB mining areas	None (within 0m)				
119	18.8	The Coal Authority non-coal mining	0	0	0	0	-
119	18.9	Researched mining	0	0	0	0	-
120	18.10	Mining record office plans	0	0	0	0	-
120	18.11	BGS mine plans	0	0	0	0	-
120	18.12	Coal mining	None (within 0m)				
120	18.13	Brine areas	None (within 0m)				
120	18.14	Gypsum areas	None (within 0m)				
121	18.15	Tin mining	None (within 0m)				
121	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
122	19.1	Natural cavities	0	0	0	0	-
122	19.2	Mining cavities	0	0	0	0	0
122	19.3	Reported recent incidents	0	0	0	0	-
122	19.4	Historical incidents	0	0	0	0	-
123	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
124 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
126 >	21.1 >	BGS Estimated Background Soil Chemistry >	3	8	-	-	-
127	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
127	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
128	22.1	Underground railways (London)	0	0	0	-	-
128	22.2	Underground railways (Non-London)	0	0	0	-	-
128	22.3	Railway tunnels	0	0	0	-	-
128	22.4	Historical railway and tunnel features	0	0	0	-	-
128	22.5	Royal Mail tunnels	0	0	0	-	-



129	22.6	Historical railways	0	0	0	-	-
129	22.7	Railways	0	0	0	-	-
129	22.8	Crossrail 1	0	0	0	0	-
129	22.9	Crossrail 2	0	0	0	0	-
129	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved.

Capture Date: 12/05/2020

Site Area: 0.79ha



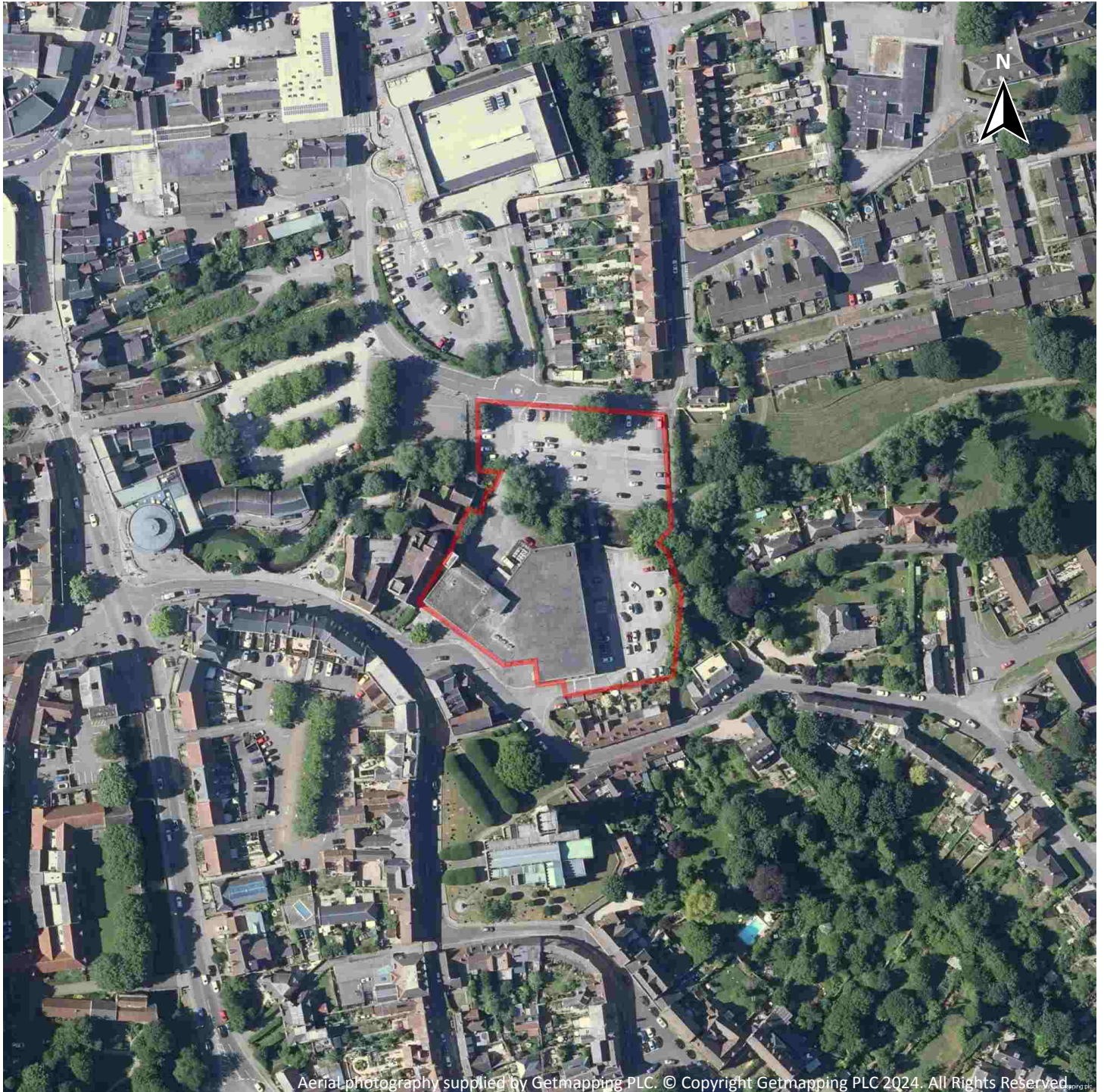
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 29 July 2024

Recent site history - 2017 aerial photograph



Capture Date: 05/07/2017

Site Area: 0.79ha



Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Date: 29 July 2024

Recent site history - 2006 aerial photograph



Capture Date: 08/06/2006

Site Area: 0.79ha



Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Date: 29 July 2024

Recent site history - 2001 aerial photograph



Capture Date: 20/06/2001

Site Area: 0.79ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 29 July 2024

Recent site history - 1999 aerial photograph



Capture Date: 15/11/1999

Site Area: 0.79ha



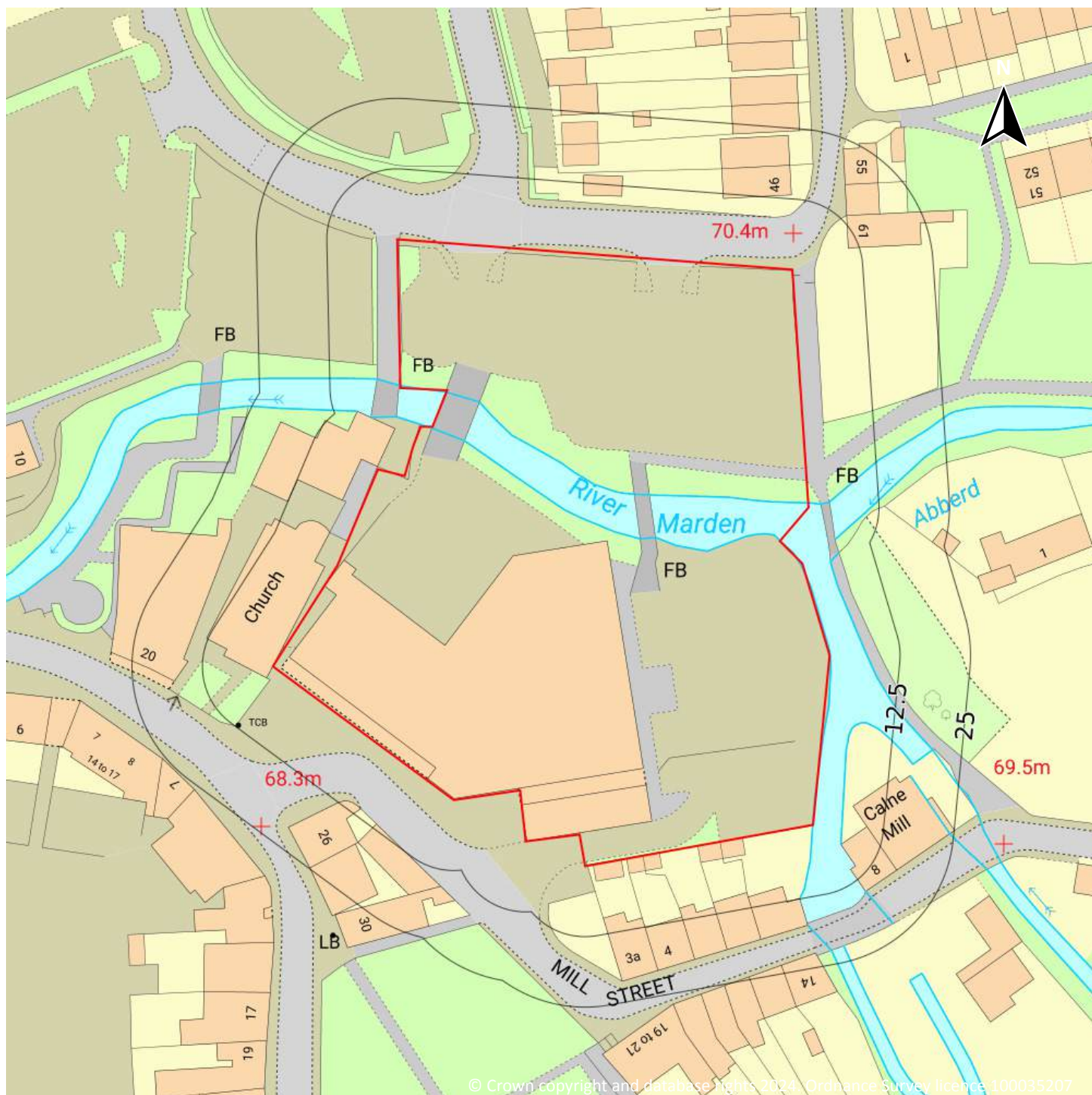
Contact us with any questions at:

info@groundsure.com

01273 257 755

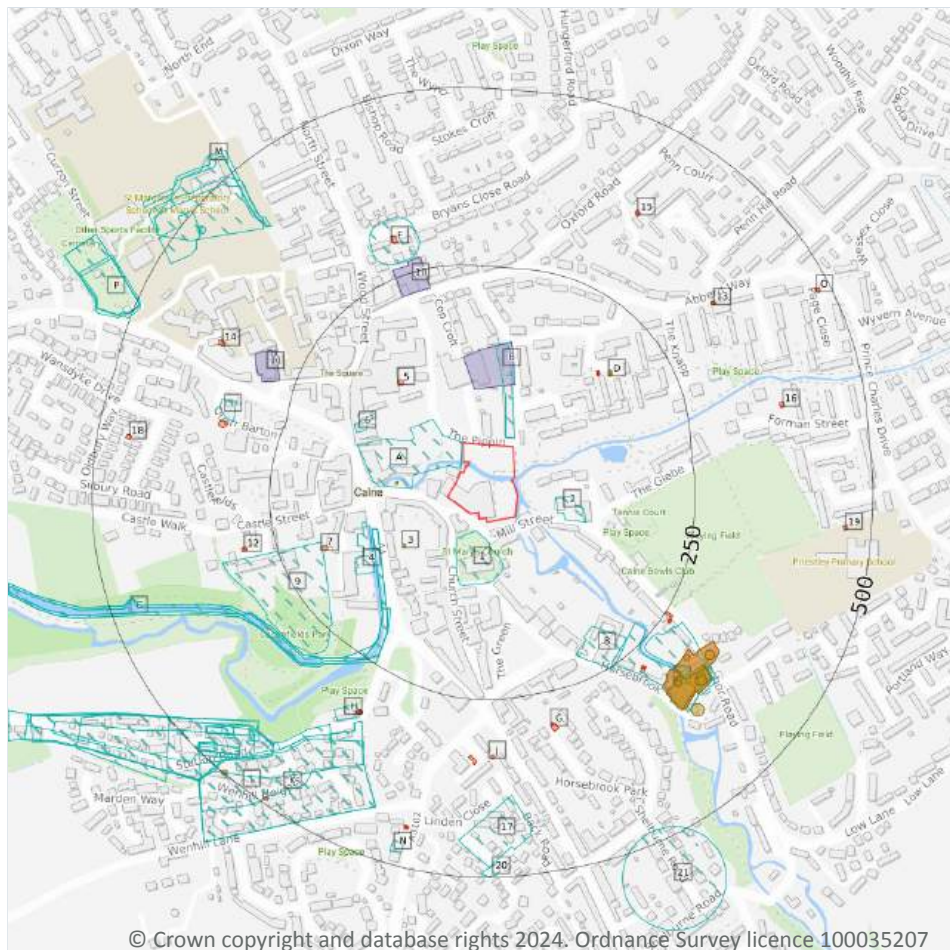
Date: 29 July 2024

OS MasterMap site plan



Site Area: 0.79ha

1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

58

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 15](#) >

ID	Location	Land use	Dates present	Group ID
A	2m NW	Unspecified Factory	1982	1208618



ID	Location	Land use	Dates present	Group ID
B	13m NE	Unspecified Depot	1982	1187788
1	17m S	Grave Yard	1885	1184907
2	54m E	Corn Mill	1885	1884796
C	108m SW	Old Canal	1960	1258136
C	108m SW	Old Canal	1982	1265310
4	117m W	Unspecified Wharf	1885	1203264
6	131m NW	Police Station	1885	1210118
C	174m SW	Disused Canal	1938	1224615
C	174m SW	Disused Canal	1899 - 1922	1246639
8	188m SE	Iron Foundry	1885	1901340
9	188m W	Burial Ground	1885	1201917
E	224m SE	Gas Works	1899 - 1922	1982018
E	255m SE	Iron Foundry	1922	1901339
F	269m N	Telecomm Exchange	1982	1185631
H	310m SW	Fire Station	1982	1186439
I	319m W	Telecomm Exchange	1982	1185632
E	320m SE	Gas Works	1885	1923391
E	322m SE	Unspecified Tank	1938	1893917
E	322m SE	Gasometer	1899 - 1922	1922878
E	325m SE	Gasometer	1885	1934093
K	329m SW	Unspecified Commercial/Industrial	1960	1188404
L	329m SW	Railway Sidings	1960	1215677
E	341m SE	Unspecified Tank	1938	1893916
E	341m SE	Gasometer	1899 - 1922	1998357
E	345m SE	Gasometer	1885	1931359
K	353m SW	Unspecified Depot	1982	1268319
L	356m SW	Railway Sidings	1938	1267106
17	386m S	Iron Works	1885	1179205



ID	Location	Land use	Dates present	Group ID
M	407m NW	Unspecified Quarry	1922	1244377
L	412m SW	Railway Sidings	1922	1225803
M	412m NW	Unspecified Quarry	1982	1244201
M	419m NW	Unspecified Quarries	1899	1202598
L	426m SW	Railway Sidings	1899	1237040
L	427m SW	Railway Building	1899 - 1938	1212266
L	428m SW	Railway Station	1960	1235436
L	432m SW	Railway Sidings	1885	1241733
L	436m SW	Railway Building	1885	1263387
L	442m SW	Railway Station	1922 - 1938	1272657
L	449m SW	Railway Building	1885	1206377
L	454m SW	Railway Station	1899	1274104
L	457m SW	Goods Shed	1922	1186286
L	460m SW	Railway Building	1899	1238781
M	464m NW	Unspecified Quarry	1885	1244463
N	466m S	Police Station	1982	1210119
M	468m NW	Lime Kiln	1885	1194789
M	469m NW	Disused Lime Kiln	1982	1185420
L	474m SW	Railway Building	1938	1277327
L	476m SW	Railway Building	1960	1273947
L	480m SW	Railway Station	1885	1186538
20	480m S	Unspecified Pit	1960	1190924
21	483m SE	Unspecified Quarry	1885	1882695
P	492m NW	Cemetery	1885	1220345
P	494m NW	Cemetery	1922 - 1938	1240566
P	496m NW	Cemetery	1960	1212071
P	496m NW	Cemetery	1982	1242879
L	497m SW	Railway Building	1885	1206371



ID	Location	Land use	Dates present	Group ID
L	498m SW	Unspecified Factory	1982	1208619

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	19
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Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	72m W	Unspecified Tank	1936	184817
3	89m SW	Unspecified Tank	1924	184820
D	168m NE	Unspecified Tank	1994 - 1997	339078
D	169m NE	Unspecified Tank	1970 - 1975	334895
D	170m NE	Unspecified Tank	1986	335096
E	305m SE	Gas Works	1924	332777
E	306m SE	Gas Works	1900	340366
E	307m SE	Gasometer	1900	319999
E	319m SE	Gasometer	1924	331516
E	320m SE	Gas Works	1886	332784
E	322m SE	Unspecified Tank	1936	323596
E	323m SE	Gasometer	1886	335860
E	329m SE	Gasometer	1900	320000
E	338m SE	Gasometer	1924	343370
E	341m SE	Unspecified Tank	1936	323597
E	342m SE	Gasometer	1886	333564
E	364m SE	Unspecified Tank	1936	323598



ID	Location	Land use	Dates present	Group ID
L	494m SW	Tanks	1969	178050
L	498m SW	Tanks	1969	178049

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

50

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 15 >](#)

ID	Location	Land use	Dates present	Group ID
5	117m NW	Electricity Substation	1992	105970
D	154m NE	Electricity Substation	1994 - 1997	216898
D	156m NE	Electricity Substation	1970 - 1975	213464
D	156m NE	Electricity Substation	1986	219965
7	183m W	Electricity Substation	1969 - 1997	115528
E	251m SE	Electricity Substation	1978 - 1988	231774
E	259m SE	Electricity Substation	1969	219070
E	260m SE	Electricity Substation	1995 - 1997	232122
E	275m SE	Electricity Substation	1993	224076
E	276m SE	Electricity Substation	1995 - 1997	225787
E	277m SE	Gas Governor	1995 - 1997	229858
12	291m W	Electricity Substation	1987 - 1997	112691
G	293m S	Electricity Substation	1995 - 1997	212403
G	296m S	Electricity Substation	1969 - 1993	232154
F	296m N	Electricity Substation	1970 - 1992	111016
E	305m SE	Gas Works	1924	232905



ID	Location	Land use	Dates present	Group ID
E	306m SE	Gas Works	1900	216440
E	307m SE	Gasometer	1900	211275
E	315m SE	Gas Governor	1969	224193
E	315m SE	Gas Governor	1978 - 1988	219684
H	316m SW	Electricity Substation	1995	116619
H	316m SW	Electricity Substation	1995	121017
H	316m SW	Electricity Substation	1997	122017
H	317m SW	Electricity Substation	1987	122148
H	318m SW	Electricity Substation	1987	113783
H	318m SW	Electricity Substation	1989	121665
H	318m SW	Electricity Substation	1991	122754
H	318m SW	Electricity Substation	1969	121149
E	319m SE	Gasometer	1924	226654
E	320m SE	Gas Works	1886	224710
E	323m SE	Gasometer	1886	217673
I	326m W	Electricity Substation	1970 - 1992	122040
J	327m S	Electricity Substation	1995 - 1997	121910
E	329m SE	Gasometer	1900	211274
J	329m S	Electricity Substation	1969 - 1991	121983
E	338m SE	Gasometer	1924	218682
E	342m SE	Gasometer	1886	221446
13	344m NE	Electricity Substation	1970 - 1997	226344
14	363m NW	Electricity Substation	1970 - 1992	111812
15	369m NE	Electricity Substation	1970 - 1997	230264
16	380m E	Electricity Substation	1975 - 1997	228542
N	441m S	Electricity Substation	1995 - 1997	111719
N	442m S	Electricity Substation	1987 - 1991	124364
N	442m S	Electricity Substation	1969	111771



ID	Location	Land use	Dates present	Group ID
18	452m W	Electricity Substation	1970 - 1992	114553
19	460m E	Electricity Substation	1995 - 1997	233044
O	479m NE	Electricity Substation	1986 - 1997	227754
O	480m NE	Electricity Substation	1975	230500
K	490m SW	Electricity Substation	1987	120695
K	491m SW	Electricity Substation	1969	110159

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

3

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
B	77m N	Repair Depot	1970	36009
10	222m N	Garage	1970 - 1992	40670
11	272m NW	Garage	1970 - 1992	38656

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

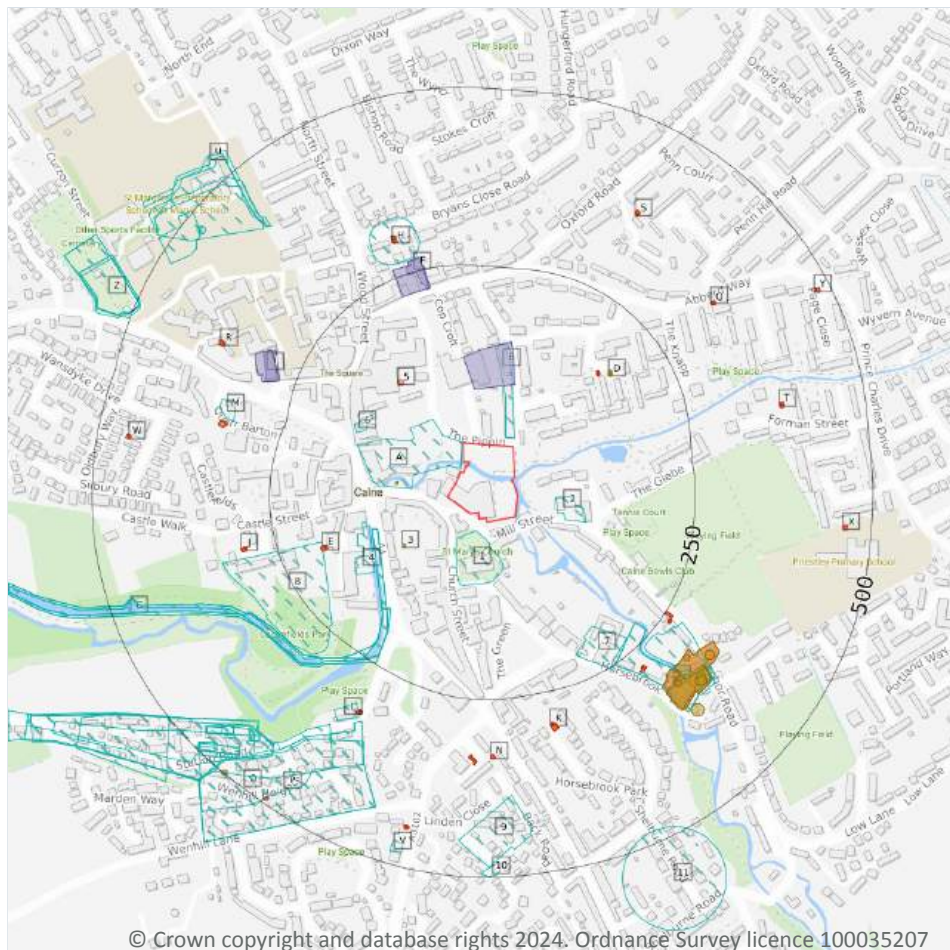
0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

66

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 23](#) >

ID	Location	Land Use	Date	Group ID
A	2m NW	Unspecified Factory	1982	1208618
B	13m NE	Unspecified Depot	1982	1187788
1	17m S	Grave Yard	1885	1184907



ID	Location	Land Use	Date	Group ID
2	54m E	Corn Mill	1885	1884796
C	108m SW	Old Canal	1982	1265310
C	108m SW	Old Canal	1960	1258136
4	117m W	Unspecified Wharf	1885	1203264
6	131m NW	Police Station	1885	1210118
C	174m SW	Disused Canal	1938	1224615
C	174m SW	Disused Canal	1922	1246639
C	174m SW	Disused Canal	1899	1246639
7	188m SE	Iron Foundry	1885	1901340
8	188m W	Burial Ground	1885	1201917
G	224m SE	Gas Works	1922	1982018
G	224m SE	Gas Works	1899	1982018
G	255m SE	Iron Foundry	1922	1901339
H	269m N	Telecomm Exchange	1982	1185631
L	310m SW	Fire Station	1982	1186439
M	319m W	Telecomm Exchange	1982	1185632
G	320m SE	Gas Works	1885	1923391
G	322m SE	Gasometer	1922	1922878
G	322m SE	Gasometer	1899	1922878
G	322m SE	Unspecified Tank	1938	1893917
G	325m SE	Gasometer	1885	1934093
O	329m SW	Railway Sidings	1960	1215677
P	329m SW	Unspecified Commercial/Industrial	1960	1188404
G	341m SE	Gasometer	1922	1998357
G	341m SE	Gasometer	1899	1998357
G	341m SE	Unspecified Tank	1938	1893916
G	345m SE	Gasometer	1885	1931359
P	353m SW	Unspecified Depot	1982	1268319



ID	Location	Land Use	Date	Group ID
O	356m SW	Railway Sidings	1938	1267106
9	386m S	Iron Works	1885	1179205
U	407m NW	Unspecified Quarry	1922	1244377
O	412m SW	Railway Sidings	1922	1225803
U	412m NW	Unspecified Quarry	1982	1244201
U	419m NW	Unspecified Quarries	1899	1202598
O	426m SW	Railway Sidings	1899	1237040
O	427m SW	Railway Building	1938	1212266
O	427m SW	Railway Building	1922	1212266
O	427m SW	Railway Building	1899	1212266
O	428m SW	Railway Station	1960	1235436
O	432m SW	Railway Sidings	1885	1241733
O	436m SW	Railway Building	1885	1263387
O	442m SW	Railway Station	1938	1272657
O	442m SW	Railway Station	1922	1272657
O	449m SW	Railway Building	1885	1206377
O	454m SW	Railway Station	1899	1274104
O	457m SW	Goods Shed	1922	1186286
O	460m SW	Railway Building	1899	1238781
U	464m NW	Unspecified Quarry	1885	1244463
V	466m S	Police Station	1982	1210119
U	468m NW	Lime Kiln	1885	1194789
U	469m NW	Disused Lime Kiln	1982	1185420
O	474m SW	Railway Building	1938	1277327
O	476m SW	Railway Building	1960	1273947
O	480m SW	Railway Station	1885	1186538
10	480m S	Unspecified Pit	1960	1190924
11	483m SE	Unspecified Quarry	1885	1882695



ID	Location	Land Use	Date	Group ID
Z	492m NW	Cemetery	1885	1220345
Z	494m NW	Cemetery	1938	1240566
Z	494m NW	Cemetery	1922	1240566
Z	496m NW	Cemetery	1982	1242879
Z	496m NW	Cemetery	1960	1212071
O	497m SW	Railway Building	1885	1206371
O	498m SW	Unspecified Factory	1982	1208619

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

21

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 23 >](#)

ID	Location	Land Use	Date	Group ID
A	72m W	Unspecified Tank	1936	184817
3	89m SW	Unspecified Tank	1924	184820
D	168m NE	Unspecified Tank	1997	339078
D	168m NE	Unspecified Tank	1994	339078
D	169m NE	Unspecified Tank	1970	334895
D	169m NE	Unspecified Tank	1975	334895
D	170m NE	Unspecified Tank	1986	335096
G	305m SE	Gas Works	1924	332777
G	306m SE	Gas Works	1900	340366
G	307m SE	Gasometer	1900	319999
G	319m SE	Gasometer	1924	331516
G	320m SE	Gas Works	1886	332784
G	322m SE	Unspecified Tank	1936	323596



ID	Location	Land Use	Date	Group ID
G	323m SE	Gasometer	1886	335860
G	329m SE	Gasometer	1900	320000
G	338m SE	Gasometer	1924	343370
G	341m SE	Unspecified Tank	1936	323597
G	342m SE	Gasometer	1886	333564
G	364m SE	Unspecified Tank	1936	323598
O	494m SW	Tanks	1969	178050
O	498m SW	Tanks	1969	178049

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

128

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 23 >](#)

ID	Location	Land Use	Date	Group ID
5	117m NW	Electricity Substation	1992	105970
D	154m NE	Electricity Substation	1997	216898
D	154m NE	Electricity Substation	1994	216898
D	156m NE	Electricity Substation	1970	213464
D	156m NE	Electricity Substation	1975	213464
D	156m NE	Electricity Substation	1986	219965
E	183m W	Electricity Substation	1987	115528
E	183m W	Electricity Substation	1987	115528
E	183m W	Electricity Substation	1991	115528
E	183m W	Electricity Substation	1989	115528
E	183m W	Electricity Substation	1987	115528
E	185m W	Electricity Substation	1969	115528



ID	Location	Land Use	Date	Group ID
E	186m W	Electricity Substation	1997	115528
E	186m W	Electricity Substation	1995	115528
E	186m W	Electricity Substation	1995	115528
G	251m SE	Electricity Substation	1978	231774
G	251m SE	Electricity Substation	1988	231774
G	251m SE	Electricity Substation	1988	231774
G	259m SE	Electricity Substation	1969	219070
G	260m SE	Electricity Substation	1995	232122
G	260m SE	Electricity Substation	1995	232122
G	260m SE	Electricity Substation	1996	232122
G	260m SE	Electricity Substation	1997	232122
G	260m SE	Electricity Substation	1995	232122
G	275m SE	Electricity Substation	1993	224076
G	276m SE	Electricity Substation	1995	225787
G	276m SE	Electricity Substation	1995	225787
G	276m SE	Electricity Substation	1996	225787
G	276m SE	Electricity Substation	1997	225787
G	276m SE	Electricity Substation	1995	225787
G	277m SE	Gas Governor	1995	229858
G	277m SE	Gas Governor	1995	229858
G	277m SE	Gas Governor	1996	229858
G	277m SE	Gas Governor	1997	229858
G	277m SE	Gas Governor	1995	229858
J	291m W	Electricity Substation	1987	112691
J	291m W	Electricity Substation	1987	112691
J	291m W	Electricity Substation	1991	112691
J	291m W	Electricity Substation	1989	112691
J	291m W	Electricity Substation	1987	112691



ID	Location	Land Use	Date	Group ID
K	293m S	Electricity Substation	1995	212403
K	293m S	Electricity Substation	1995	212403
K	293m S	Electricity Substation	1996	212403
K	293m S	Electricity Substation	1997	212403
K	293m S	Electricity Substation	1995	212403
J	294m W	Electricity Substation	1997	112691
J	294m W	Electricity Substation	1995	112691
J	294m W	Electricity Substation	1995	112691
K	296m S	Electricity Substation	1978	232154
K	296m S	Electricity Substation	1988	232154
K	296m S	Electricity Substation	1988	232154
K	296m S	Electricity Substation	1989	232154
K	296m S	Electricity Substation	1993	232154
H	296m N	Electricity Substation	1970	111016
K	297m S	Electricity Substation	1969	232154
H	299m N	Electricity Substation	1992	111016
G	305m SE	Gas Works	1924	232905
G	306m SE	Gas Works	1900	216440
G	307m SE	Gasometer	1900	211275
G	315m SE	Gas Governor	1969	224193
G	315m SE	Gas Governor	1978	219684
G	315m SE	Gas Governor	1988	219684
G	315m SE	Gas Governor	1988	219684
L	316m SW	Electricity Substation	1997	122017
L	316m SW	Electricity Substation	1995	121017
L	316m SW	Electricity Substation	1995	116619
L	317m SW	Electricity Substation	1987	122148
L	318m SW	Electricity Substation	1991	122754



ID	Location	Land Use	Date	Group ID
L	318m SW	Electricity Substation	1989	121665
L	318m SW	Electricity Substation	1987	113783
L	318m SW	Electricity Substation	1969	121149
G	319m SE	Gasometer	1924	226654
G	320m SE	Gas Works	1886	224710
G	323m SE	Gasometer	1886	217673
M	326m W	Electricity Substation	1970	122040
N	327m S	Electricity Substation	1997	121910
N	327m S	Electricity Substation	1995	121910
N	327m S	Electricity Substation	1995	121910
M	328m W	Electricity Substation	1992	122040
G	329m SE	Gasometer	1900	211274
N	329m S	Electricity Substation	1987	121983
N	329m S	Electricity Substation	1987	121983
N	329m S	Electricity Substation	1991	121983
N	329m S	Electricity Substation	1989	121983
N	329m S	Electricity Substation	1987	121983
N	330m S	Electricity Substation	1969	121983
G	338m SE	Gasometer	1924	218682
G	342m SE	Gasometer	1886	221446
Q	344m NE	Electricity Substation	1986	226344
Q	345m NE	Electricity Substation	1997	226344
Q	345m NE	Electricity Substation	1994	226344
Q	345m NE	Electricity Substation	1970	226344
Q	345m NE	Electricity Substation	1975	226344
R	363m NW	Electricity Substation	1970	111812
R	364m NW	Electricity Substation	1992	111812
S	369m NE	Electricity Substation	1997	230264



ID	Location	Land Use	Date	Group ID
S	369m NE	Electricity Substation	1994	230264
S	370m NE	Electricity Substation	1986	230264
S	371m NE	Electricity Substation	1970	230264
S	371m NE	Electricity Substation	1975	230264
T	380m E	Electricity Substation	1986	228542
T	381m E	Electricity Substation	1997	228542
T	381m E	Electricity Substation	1994	228542
T	381m E	Electricity Substation	1975	228542
V	441m S	Electricity Substation	1997	111719
V	441m S	Electricity Substation	1995	111719
V	441m S	Electricity Substation	1995	111719
V	442m S	Electricity Substation	1987	124364
V	442m S	Electricity Substation	1987	124364
V	442m S	Electricity Substation	1991	124364
V	442m S	Electricity Substation	1989	124364
V	442m S	Electricity Substation	1987	124364
V	442m S	Electricity Substation	1969	111771
W	452m W	Electricity Substation	1970	114553
W	454m W	Electricity Substation	1992	114553
X	460m E	Electricity Substation	1995	233044
X	460m E	Electricity Substation	1995	233044
X	460m E	Electricity Substation	1996	233044
X	460m E	Electricity Substation	1997	233044
X	460m E	Electricity Substation	1995	233044
Y	479m NE	Electricity Substation	1986	227754
Y	480m NE	Electricity Substation	1997	227754
Y	480m NE	Electricity Substation	1994	227754
Y	480m NE	Electricity Substation	1975	230500



ID	Location	Land Use	Date	Group ID
P	490m SW	Electricity Substation	1987	120695
P	490m SW	Electricity Substation	1987	120695
P	490m SW	Electricity Substation	1987	120695
P	491m SW	Electricity Substation	1969	110159

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

5

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'.

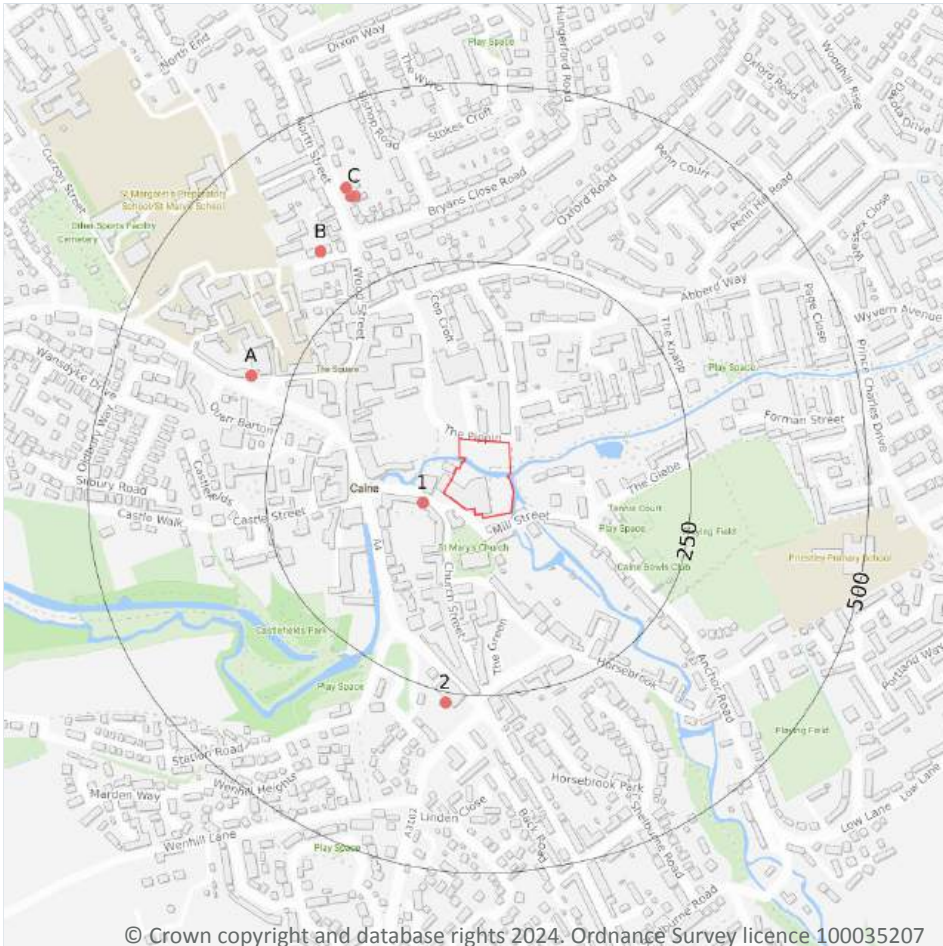
Features are displayed on the Past land use - un-grouped map on [page 23 >](#)

ID	Location	Land Use	Date	Group ID
B	77m N	Repair Depot	1970	36009
F	222m N	Garage	1970	40670
F	222m N	Garage	1992	40670
I	272m NW	Garage	1970	38656
I	275m NW	Garage	1992	38656

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**19**

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 33](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
1	33m W	8, Bank Row, Church Street, Calne, Sn11 Osg	WEX152912	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
2	265m S	-	WEX367278	Using waste exemption	Not on a farm	Use of waste in construction
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX233963	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX233963	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX207311	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX087395	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX087395	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX049681	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX257768	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX258281	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	306m NW	15, Curzon Street, Calne, Sn11 Odb	WEX258281	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	327m NW	Stockley Lane, Stockley, Calne, Sn11 Ohn	WEX033489	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	327m NW	Stockley Lane, Stockley, Calne, Sn11 Ohn	WEX033489	Using waste exemption	On a farm	Use of waste in construction
B	327m NW	Stockley Lane, Stockley, Calne, Sn11 Ohn	WEX033489	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
B	327m NW	Stockley Lane, Stockley, Calne, Sn11 Ohn	WEX033489	Disposing of waste exemption	On a farm	Burning waste in the open
B	327m NW	Stockley Lane, Stockley, Calne, Sn11 Ohn	WEX033489	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
C	372m NW	30-32, North Street, Calne, Sn11 Ohh	WEX230885	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

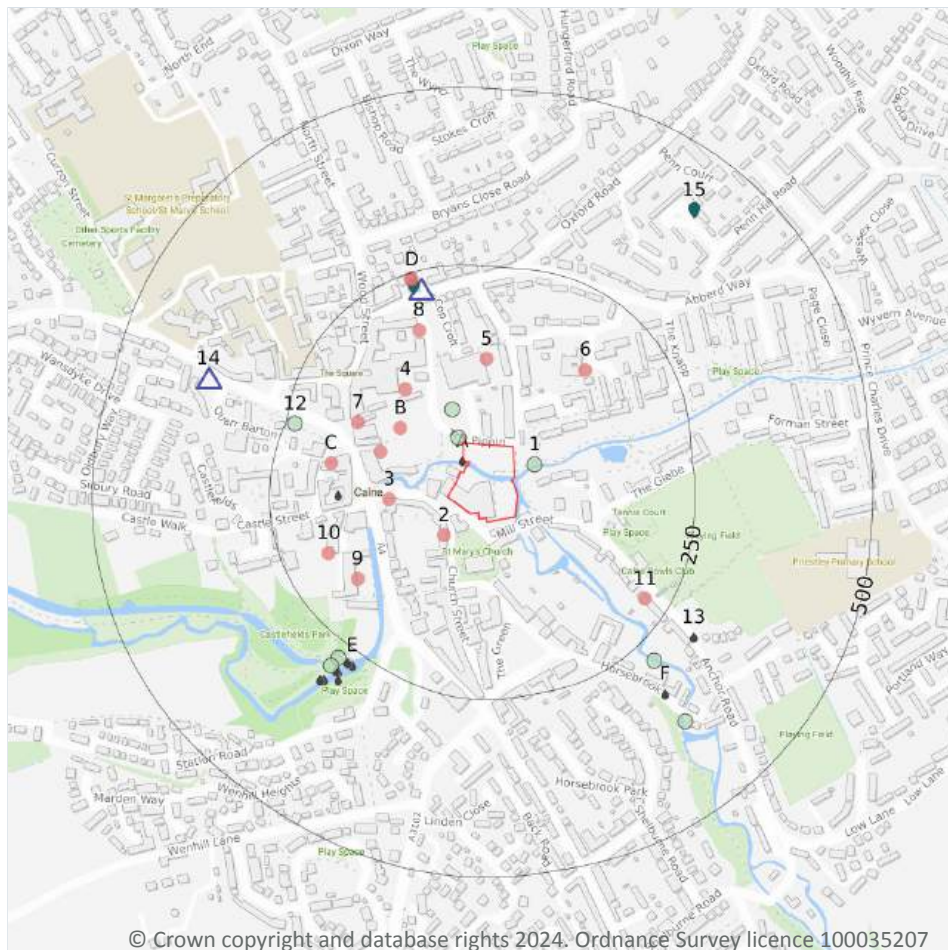


ID	Location	Site	Reference	Category	Sub-Category	Description
C	374m NW	-	WEX358422	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
C	387m NW	-	WEX360772	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

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



4 Current industrial land use



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

4.1 Recent industrial land uses

Records within 250m

15

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 37](#) >

ID	Location	Company	Address	Activity	Category
2	47m SW	Flying Pig Cake Emporium	15, Church Street, Calne, Wiltshire, SN11 0HY	Baking and Confectionery	Foodstuffs
3	82m W	Information centre	Council Offices, The Strand, Calne, Wiltshire, SN11 0BS	Disability and Mobility Equipment	Consumer Products



ID	Location	Company	Address	Activity	Category
B	91m NW	Electricity Sub Station	Wiltshire, SN11	Electrical Features	Infrastructure and Facilities
4	111m NW	Electricity Sub Station	Wiltshire, SN11	Electrical Features	Infrastructure and Facilities
B	113m W	Electricity Sub Station	Wiltshire, SN11	Electrical Features	Infrastructure and Facilities
5	120m N	Electricity Sub Station	Wiltshire, SN11	Electrical Features	Infrastructure and Facilities
6	149m NE	Electricity Sub Station	Wiltshire, SN11	Electrical Features	Infrastructure and Facilities
7	151m NW	Calne DIY	12, High Street, Calne, Wiltshire, SN11 OBS	General Construction Supplies	Industrial Products
8	171m NW	Electricity Sub Station	Wiltshire, SN11	Electrical Features	Infrastructure and Facilities
C	171m W	Hurtwood Ltd	2, Market Hill, Calne, Wiltshire, SN11 OBT	Electronic Equipment	Industrial Products
9	171m SW	Wharf	Wiltshire, SN11	Moorings and Unloading Facilities	Water
10	185m SW	Electricity Sub Station	Wiltshire, SN11	Electrical Features	Infrastructure and Facilities
11	216m SE	Anchor Road Records	50, Anchor Road, Calne, Wiltshire, SN11 8DU	Recording Studios and Record Companies	IT, Advertising, Marketing and Media Services
D	241m N	Mfg Pippin	17, Oxford Road, Calne, Wiltshire, SN11 8AA	Vehicle Cleaning Services	Personal, Consumer and Other Services
D	243m N	Esso	Malthurst Pippin, Calne, Wiltshire, SN11 8AA	Petrol and Fuel Stations	Road and Rail

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

2

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on [page 37](#) >



ID	Location	Company	Address	LPG	Status
D	225m N	ESSO	Oxford Road, Calne, Wiltshire, SN11 8AA	No	Open
14	369m W	OBSOLETE	Curzon Street, Calne, Wiltshire, SN11 0DG	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.



4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

2

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 37](#) >

ID	Location	Address	Details	
D	229m N	Pippin Service Station, 17 Oxford Road, Calne, SN11 8AA	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
15	418m NE	Powney & Zebedee	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0
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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	16
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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 37 >](#)

ID	Location	Address	Details	
A	1m NW	WOOD STREET COMBINED SEWER OVERFLOW, 13 WOOD STREET, CALNE, WILTSHIRE, SN11 0BZ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100774 Permit Version: 2 Receiving Water: RIVER MARDEN VIA SWS	Status: VARIED UNDER EPR 2010 Issue date: 23/12/2020 Effective Date: 23/12/2020 Revocation Date: -
C	154m W	STRAND/PATFORD STREET, CALNE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 010775 Permit Version: 1 Receiving Water: RIVER MARDEN	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: - Effective Date: 12/09/1989 Revocation Date: 05/01/1999



ID	Location	Address	Details	
E	270m SW	PATFORD STREET CSO, REAR OF MARDEN HOUSE, CALNE, WILTSHIRE, SN11 0EF	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100775 Permit Version: 1 Receiving Water: (S) RIVER MARDEN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 13/08/1999 Effective Date: 29/07/1999 Revocation Date: 18/02/2018
E	270m SW	PATFORD STREET CSO, REAR OF MARDEN HOUSE, CALNE, WILTSHIRE, SN11 0EF	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100775 Permit Version: 2 Receiving Water: RIVER MARDEN	Status: VARIED UNDER EPR 2010 Issue date: 19/02/2018 Effective Date: 19/02/2018 Revocation Date: 30/03/2018
E	270m SW	PATFORD STREET CSO, REAR OF MARDEN HOUSE, CALNE, WILTSHIRE, SN11 0EF	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100775 Permit Version: 3 Receiving Water: RIVER MARDEN	Status: VARIED UNDER EPR 2010 Issue date: 19/02/2018 Effective Date: 31/03/2018 Revocation Date: -
E	289m SW	THE STRAND CSO, CALNE, WILTSHIRE, SN11 0EH	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100715 Permit Version: 1 Receiving Water: RIVER MARDEN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 05/03/1999 Effective Date: 05/01/1999 Revocation Date: 26/03/2019
E	289m SW	THE STRAND CSO, CALNE, WILTSHIRE, SN11 0EH	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100715 Permit Version: 2 Receiving Water: RIVER MARDEN	Status: VARIED UNDER EPR 2010 Issue date: 27/03/2019 Effective Date: 27/03/2019 Revocation Date: -
E	290m SW	MARKET HILL CSO, HIGH STREET, CALNE, WILTSHIRE, SN11 0BS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100771 Permit Version: 1 Receiving Water: RIVER MARDEN VIA SWS	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 29/07/1999 Effective Date: 29/07/1999 Revocation Date: 17/01/2021
E	290m SW	MARKET HILL CSO, HIGH STREET, CALNE, WILTSHIRE, SN11 0BS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100771 Permit Version: 3 Receiving Water: RIVER MARDEN VIA SWS	Status: VARIED UNDER EPR 2010 Issue date: 18/01/2021 Effective Date: 31/03/2025 Revocation Date: -



ID	Location	Address	Details	
E	290m SW	MARKET HILL CSO, HIGH STREET, CALNE, WILTSHIRE, SN11 0BS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100771 Permit Version: 2 Receiving Water: RIVER MARDEN VIA SWS	Status: VARIED UNDER EPR 2010 Issue date: 18/01/2021 Effective Date: 18/01/2021 Revocation Date: 30/03/2025
E	298m SW	WOOD STREET COMBINED SEWER OVERFLOW, 13 WOOD STREET, CALNE, WILTSHIRE, SN11 0BZ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100774 Permit Version: 1 Receiving Water: (S) RIVER MARDEN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 12/08/1999 Effective Date: 29/07/1999 Revocation Date: 22/12/2020
13	302m SE	HORSEBROOK, CALNE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 010777 Permit Version: 1 Receiving Water: RIVER MARDEN	Status: REVOKED NEW CONSENT ISSUED (WATER ACT 1989 SECTION 113) Issue date: - Effective Date: 12/09/1989 Revocation Date: 29/07/1999
E	310m SW	CASTLEFIELDS PARK COMBINED SEWER, OVERFLOW, CALNE, WILTSHIRE, SN11 0JJ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100776 Permit Version: 1 Receiving Water: (S) RIVER MARDEN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 13/08/1999 Effective Date: 29/07/1999 Revocation Date: 05/12/2021
E	313m SW	CASTLEFIELDS PARK COMBINED SEWER, OVERFLOW, CALNE, WILTSHIRE, SN11 0JJ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100776 Permit Version: 2 Receiving Water: RIVER MARDEN	Status: VARIED UNDER EPR 2010 Issue date: 13/08/1999 Effective Date: 06/12/2021 Revocation Date: 30/12/2023
E	313m SW	CASTLEFIELDS PARK COMBINED SEWER, OVERFLOW, CALNE, WILTSHIRE, SN11 0JJ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100776 Permit Version: 3 Receiving Water: RIVER MARDEN	Status: VARIED UNDER EPR 2010 Issue date: 13/08/1999 Effective Date: 31/12/2023 Revocation Date: -
F	326m SE	HORSEBROOK COMBINED SEWER OVERFLOW, CALNE, NORTH WILTSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100770 Permit Version: 1 Receiving Water: (S) RIVER MARDEN	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 29/07/1999 Effective Date: 29/07/1999 Revocation Date: 16/06/2008

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



4.14 Pollutant release to surface waters (Red List)

Records within 500m**0**

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

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

4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m**0**

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**8**

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 37 >](#)

ID	Location	Details	
A	9m NW	Incident Date: 08/05/2003 Incident Identification: 156769 Pollutant: Specific Waste Materials Pollutant Description: Metal Wastes	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
1	29m E	Incident Date: 22/08/2003 Incident Identification: 184241 Pollutant: Organic Chemicals/Products Pollutant Description: Paints and Varnishes	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
A	49m NW	Incident Date: 14/11/2002 Incident Identification: 120722 Pollutant: Inorganic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
12	237m W	Incident Date: 23/01/2003 Incident Identification: 133006 Pollutant: Sewage Materials Pollutant Description: Storm Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	272m SW	Incident Date: 19/11/2003 Incident Identification: 202402 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Algae	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	281m SE	Incident Date: 19/06/2003 Incident Identification: 167306 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	288m SW	Incident Date: 13/04/2003 Incident Identification: 150695 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
F	374m SE	Incident Date: 17/09/2001 Incident Identification: 31079 Pollutant: Organic Chemicals/Products Pollutant Description: Paints and Varnishes	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

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

4.19 Pollution inventory substances

Records within 500m

0

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



available.

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m

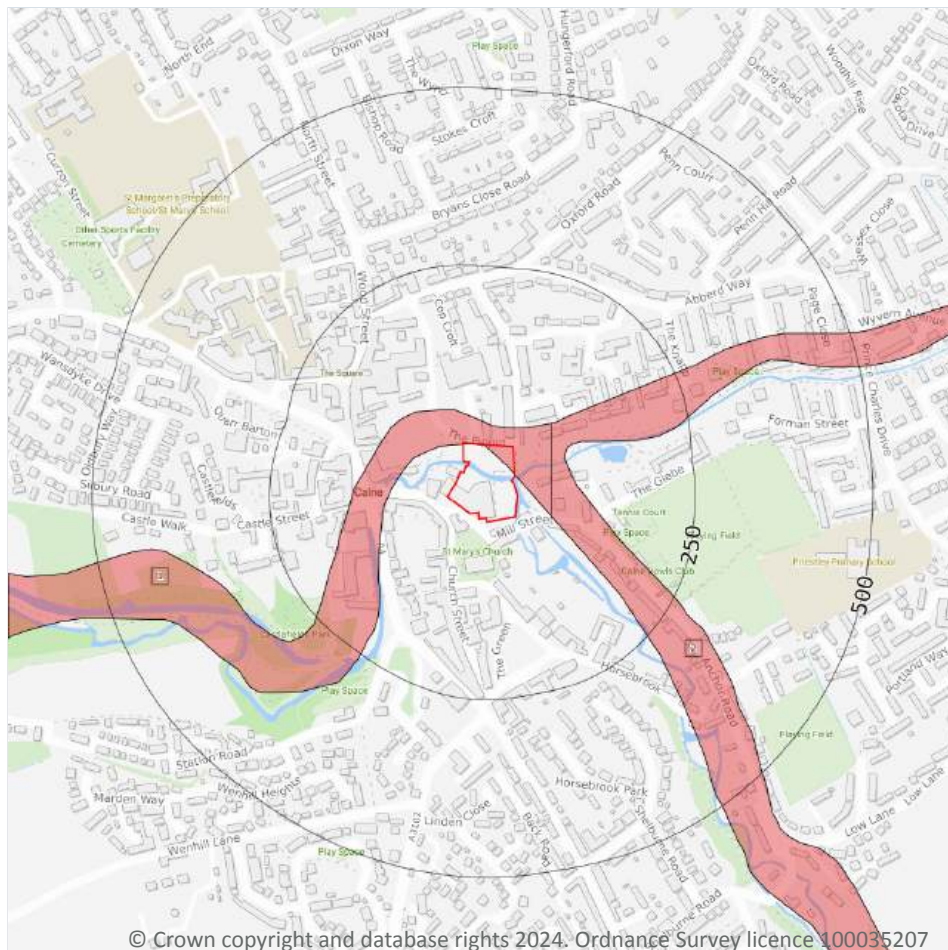
0

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

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



5 Hydrogeology - Superficial aquifer



— Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m

2

Aquifer status of groundwater held within superficial geology.

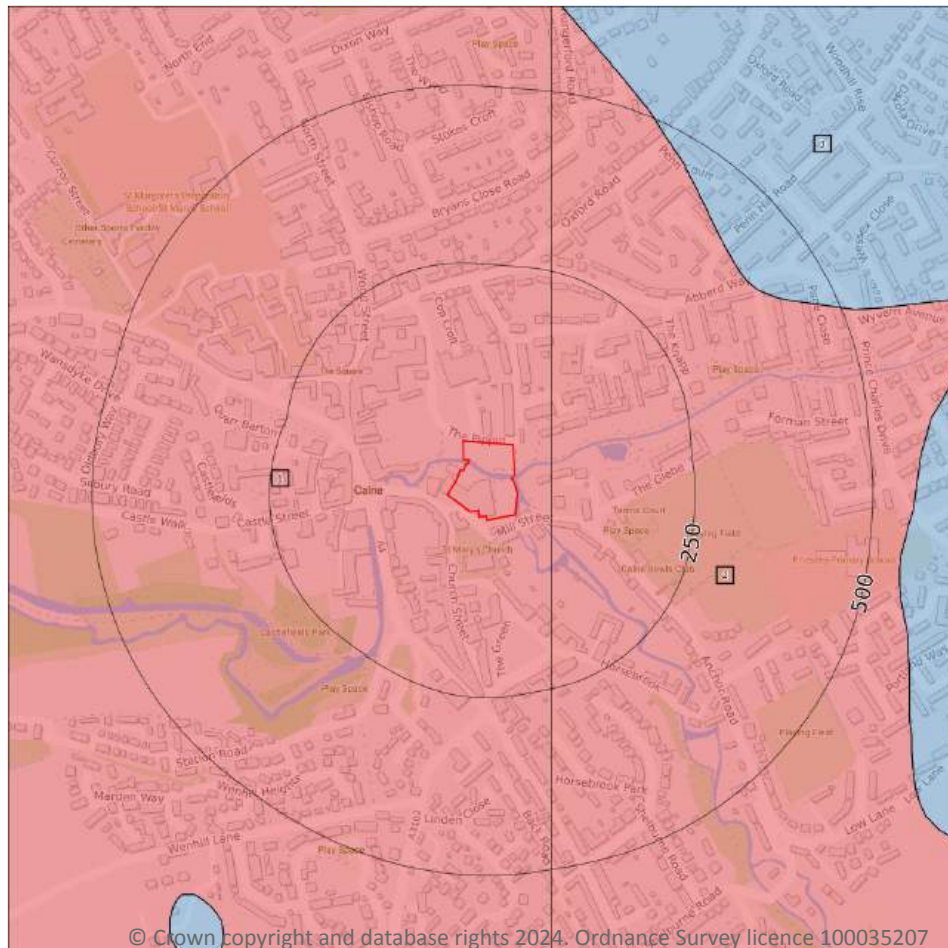
Features are displayed on the Hydrogeology map on [page 47 >](#)

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	47m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



— Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m

3

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 49](#) >

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	47m E	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

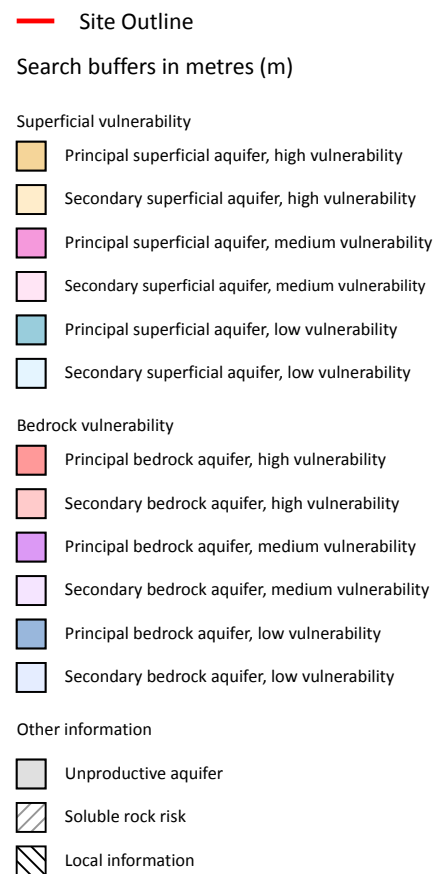
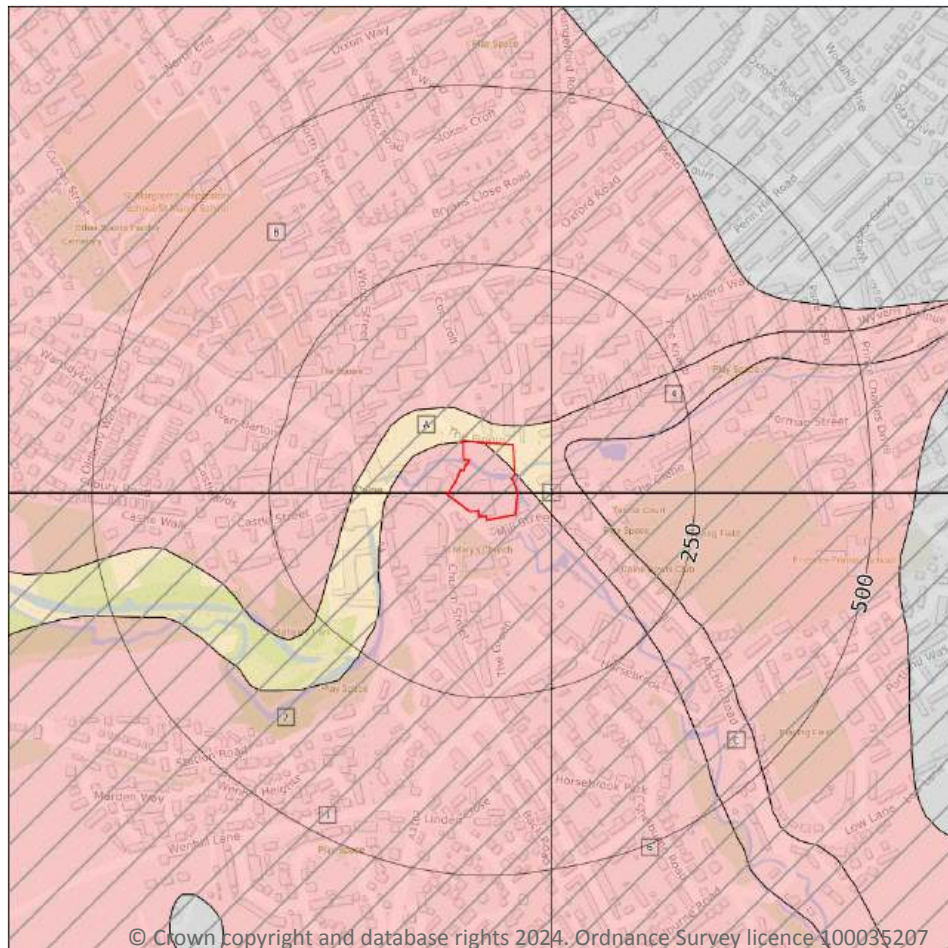


ID	Location	Designation	Description
3	401m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

8

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 51](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: 40- 70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40- 70% Dilution value: 300- 550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: 40- 70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
3	21m E	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40- 70% Dilution value: 300- 550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
B	25m N	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: 40- 70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
4	47m E	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
C	47m E	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
6	49m SE	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m 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	2
------------------------	----------

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.	7.000000000000001%
B	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.	2.0%

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

5.5 Groundwater vulnerability- local information

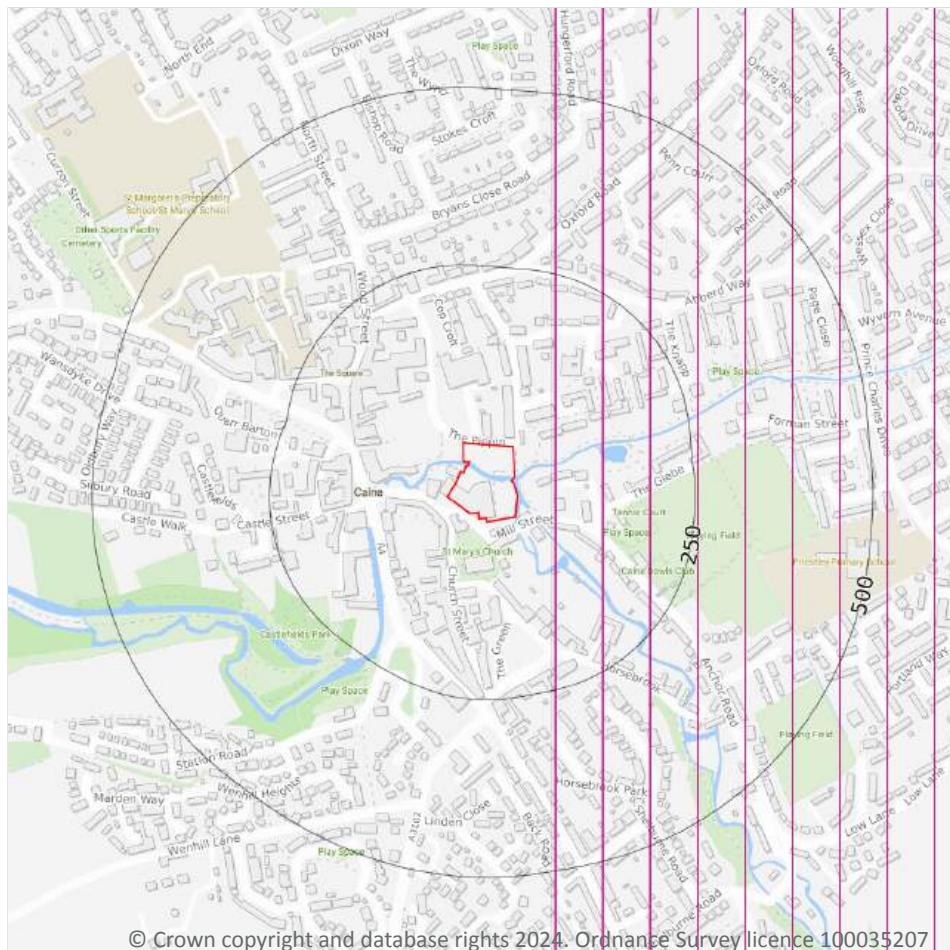
Records on site	0
------------------------	----------

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

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



Abstractions and Source Protection Zones



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

5.6 Groundwater abstractions

Records within 2000m

8

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 54](#) >

ID	Location	Details	
1	47m E	Status: Historical Licence No: 17/53/008/G/061 Details: Process Water Direct Source: Ground Water - Fresh Point: EXCAVATED PIT AND STORAGE LAGOON Data Type: Poly4 Name: Aggregate Industries UK Ltd Easting: 400000 Northing: 172000	Annual Volume (m ³): 83950 Max Daily Volume (m ³): 230 Original Application No: - Original Start Date: 14/06/1990 Expiry Date: - Issue No: 102 Version Start Date: 31/07/2013 Version End Date: -
-	891m E	Status: Historical Licence No: 17/53/008/G/024 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: "WELLS, CALNE" Data Type: Poly3 Name: Henly Bros Easting: 401100 Northing: 170500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/02/1966 Version End Date: -
-	891m E	Status: Historical Licence No: 17/53/008/G/024 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: WELLS, CALNE Data Type: Poly3 Name: Henly Bros Easting: 401100 Northing: 170500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/02/1966 Version End Date: -
-	1047m E	Status: Historical Licence No: 17/53/008/G/061 Details: Process water Direct Source: Ground Water - Fresh Point: EXCAVATED PIT AND STORAGE LAGOON Data Type: Poly4 Name: Aggregate Industries UK Ltd Easting: 401000 Northing: 172000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/06/1990 Expiry Date: - Issue No: 101 Version Start Date: 01/01/2000 Version End Date: -
-	1347m E	Status: Historical Licence No: 17/53/008/G/025 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: WELL 1, CALNE Data Type: Point Name: Henly Bros Easting: 401300 Northing: 171000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/02/1966 Version End Date: -



ID	Location	Details	
-	1421m E	Status: Historical Licence No: 17/53/008/G/025 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: WELL 2, CALNE Data Type: Point Name: Henly Bros Easting: 401300 Northing: 171500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/02/1966 Version End Date: -
-	1558m NE	Status: Historical Licence No: 17/53/008/G/023 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: "WELL, CALNE" Data Type: Point Name: Noad Easting: 400900 Northing: 172300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/02/1966 Version End Date: -
-	1558m NE	Status: Historical Licence No: 17/53/008/G/023 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: WELL, CALNE Data Type: Point Name: Noad Easting: 400900 Northing: 172300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/02/1966 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

9

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 54 >](#)



ID	Location	Details	
-	1532m NE	Status: Historical Licence No: 17/53/008/S/062 Details: Process Water Direct Source: Surface Water - Fresh Point: ABBERD BROOK Data Type: Point Name: Aggregate Industries UK Ltd Easting: 401270 Northing: 171840	Annual Volume (m ³): 83950 Max Daily Volume (m ³): 230 Original Application No: - Original Start Date: 22/06/1990 Expiry Date: - Issue No: 102 Version Start Date: 31/07/2013 Version End Date: -
-	1697m SE	Status: Historical Licence No: 17/53/008/S/006 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface Water - Fresh Point: RIVER MARDEN Data Type: Point Name: Dalgety Agriculture Ltd Easting: 400800 Northing: 169500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 09/03/1983 Version End Date: -
-	1707m SE	Status: Historical Licence No: 17/53/008/S/056 Details: Lake & Pond Throughflow Direct Source: Surface Water - Fresh Point: RIVER MARDEN Data Type: Line Name: Dalgety Agriculture Ltd Easting: 400820 Northing: 169500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/09/1987 Expiry Date: - Issue No: 100 Version Start Date: 16/09/1987 Version End Date: -
-	1707m SE	Status: Historical Licence No: 17/53/008/S/056 Details: Lake & Pond Throughflow Direct Source: Surface Water - Fresh Point: RIVER MARDEN (POINT A) Data Type: Point Name: Marden Conservation and Wildlife Trust Easting: 400820 Northing: 169500	Annual Volume (m ³): 130000 Max Daily Volume (m ³): 350 Original Application No: - Original Start Date: 16/09/1987 Expiry Date: - Issue No: 102 Version Start Date: 13/12/2011 Version End Date: -
-	1789m SE	Status: Historical Licence No: 17/53/008/S/056 Details: Lake & Pond Throughflow Direct Source: Surface Water - Fresh Point: RIVER MARDEN (POINT B) Data Type: Point Name: Marden Conservation and Wildlife Trust Easting: 400880 Northing: 169440	Annual Volume (m ³): 130000 Max Daily Volume (m ³): 350 Original Application No: - Original Start Date: 16/09/1987 Expiry Date: - Issue No: 102 Version Start Date: 13/12/2011 Version End Date: -



ID	Location	Details	
-	1838m E	Status: Active Licence No: SW/053/0008/004 Details: General Use Relating To Secondary Category (High Loss) Direct Source: Surface Water - Fresh Point: LAGOON 1A AT LOWER COMPTON LANDFILL Data Type: Poly4 Name: Hills Waste Solutions Limited Easting: 401754 Northing: 170615	Annual Volume (m ³): 9359 Max Daily Volume (m ³): 48 Original Application No: NPS/NA/001337 Original Start Date: 18/11/2022 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 18/11/2022 Version End Date: -
-	1904m E	Status: Active Licence No: SW/053/0008/003 Details: Dust Suppression Direct Source: Surface Water - Fresh Point: REED BED AT LOWER COMPTON LANDFILL Data Type: Poly4 Name: Hills Quarry Products Ltd Easting: 401812 Northing: 170571	Annual Volume (m ³): 5255 Max Daily Volume (m ³): 27 Original Application No: NPS/NA/001335 Original Start Date: 18/11/2022 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 18/11/2022 Version End Date: -
-	1904m E	Status: Active Licence No: SW/053/0008/003 Details: General Washing/Process Washing Direct Source: Surface Water - Fresh Point: REED BED AT LOWER COMPTON LANDFILL Data Type: Poly4 Name: Hills Quarry Products Ltd Easting: 401812 Northing: 170571	Annual Volume (m ³): 5255 Max Daily Volume (m ³): 27 Original Application No: NPS/NA/001335 Original Start Date: 18/11/2022 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 18/11/2022 Version End Date: -
-	1904m E	Status: Active Licence No: SW/053/0008/003 Details: Process Water Direct Source: Surface Water - Fresh Point: REED BED AT LOWER COMPTON LANDFILL Data Type: Poly4 Name: Hills Quarry Products Ltd Easting: 401812 Northing: 170571	Annual Volume (m ³): 5255 Max Daily Volume (m ³): 27 Original Application No: NPS/NA/001335 Original Start Date: 18/11/2022 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 18/11/2022 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

0

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



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

5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

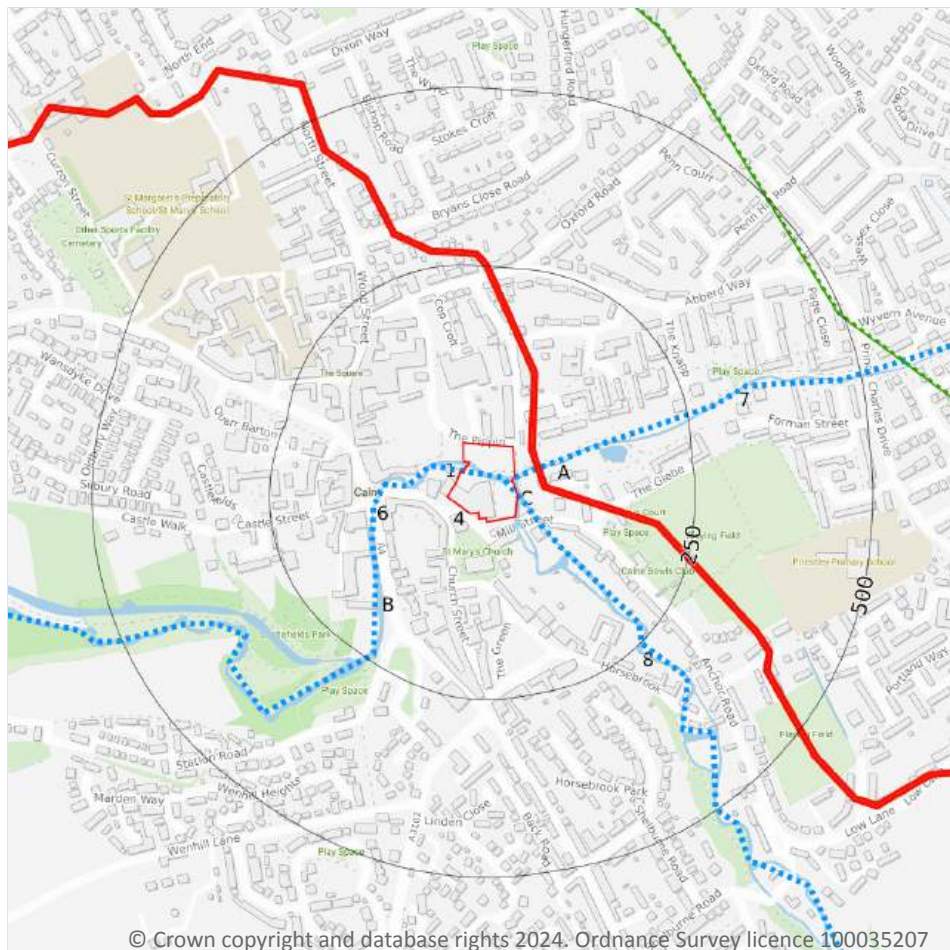
0

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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

20

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 60 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden



ID	Location	Type of water feature	Ground level	Permanence	Name
A	1m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Abberd Brook
C	1m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
C	2m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
C	6m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
C	9m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
C	9m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	River Marden
C	17m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	River Marden
C	32m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
C	33m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
C	60m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
C	88m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	89m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
C	95m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden



ID	Location	Type of water feature	Ground level	Permanence	Name
B	115m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
7	117m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Abberd Brook
A	117m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	171m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	River Marden
C	175m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden
8	177m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Marden

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

4

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 60](#) >

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 60](#) >



ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
B	On site	River	Marden - source to conf Cowage Bk	GB109053022050	Avon Bristol Rural	Avon Bristol and Somerset Nort

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

6.4 WFD Surface water bodies

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

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

Features are displayed on the Hydrology map on [page 60 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
3	On site	River	Marden - source to conf Cowage Bk	GB109053022050 ↗	Moderate	Fail	Good	2019

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

6.5 WFD Groundwater bodies

Records on site	1
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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.

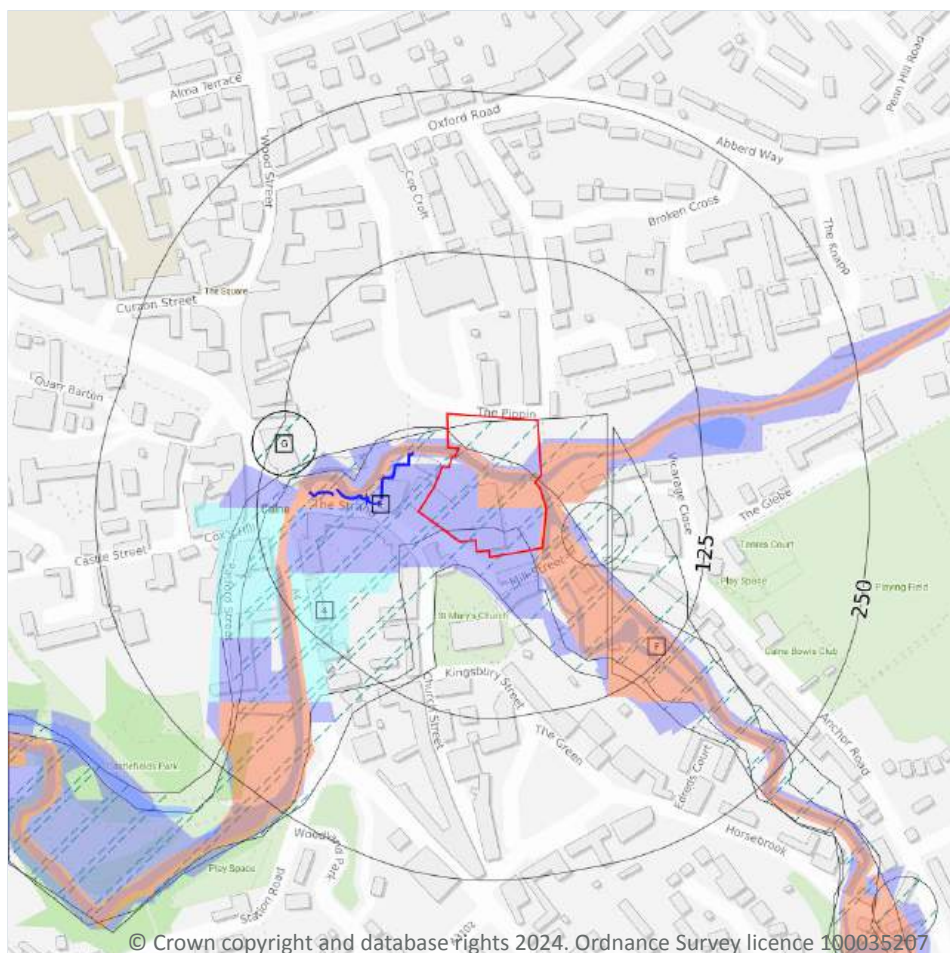
Features are displayed on the Hydrology map on [page 60 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
4	On site	Corallian Limestone (Calne to Swindon)	GB40902G806100 ↗	Good	Good	Good	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

10

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 64 >](#)



Distance	Flood risk category
On site	High
0 - 50m	High

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

7.2 Historical Flood Events

Records within 250m	7
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Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

Features are displayed on the River and coastal flooding map on [page 64](#) >

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
4	On site	Ea112_Cowage Brook_River Marden_Ratford_1925	1925-01-01 1925-01-31	Main river	Channel capacity exceeded (no raised defences)	Fluvial
B	On site	Ea112_Avon_Chippenham_Calne	1932-05-03 1932-05-31	Main river	Channel capacity exceeded (no raised defences)	Fluvial
D	14m SE	This Represents Flooding In The Area In 1960	1960-12-04 1960-12-04	Main river	Obstruction/blockage - channel	Fluvial
F	52m E	Ea112_Avon_Chippenham_Calne	1932-05-03 1932-05-31	Main river	Channel capacity exceeded (no raised defences)	Fluvial
G	92m W	This Represents Flooding In The Area In 1989	1989-12-01 1989-12-01	Main river	Channel capacity exceeded (no raised defences)	Fluvial
G	92m W	This Represents Flooding In The Area In 1960	1960-12-04 1960-12-04	Main river	Obstruction/blockage - channel	Fluvial
G	92m W	This Represents Flooding In The Area In 1988	1988-12-01 1988-12-01	Main river	Channel capacity exceeded (no raised defences)	Fluvial

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



7.3 Flood Defences

Records within 250m

12

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.

Features are displayed on the River and coastal flooding map on [page 64](#) >

ID	Location	Update
A	25m W	08/11/2022
E	29m W	08/11/2022
E	29m W	08/11/2022
E	31m W	08/11/2022
E	40m W	08/11/2022
E	41m W	08/11/2022
E	41m W	08/11/2022
E	42m W	08/11/2022
E	42m W	08/11/2022
E	45m W	08/11/2022
E	47m W	08/11/2022
E	67m W	08/11/2022

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

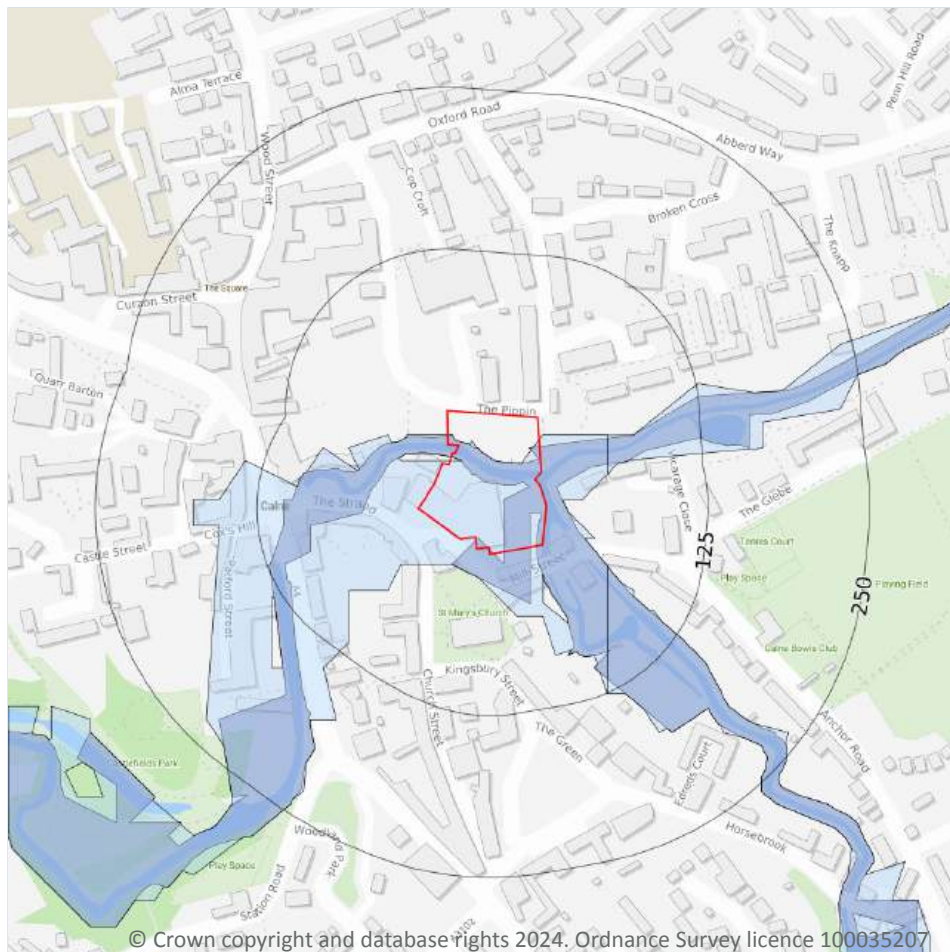
0

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 64](#) >

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

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

7.7 Flood Zone 3

Records within 50m

1

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

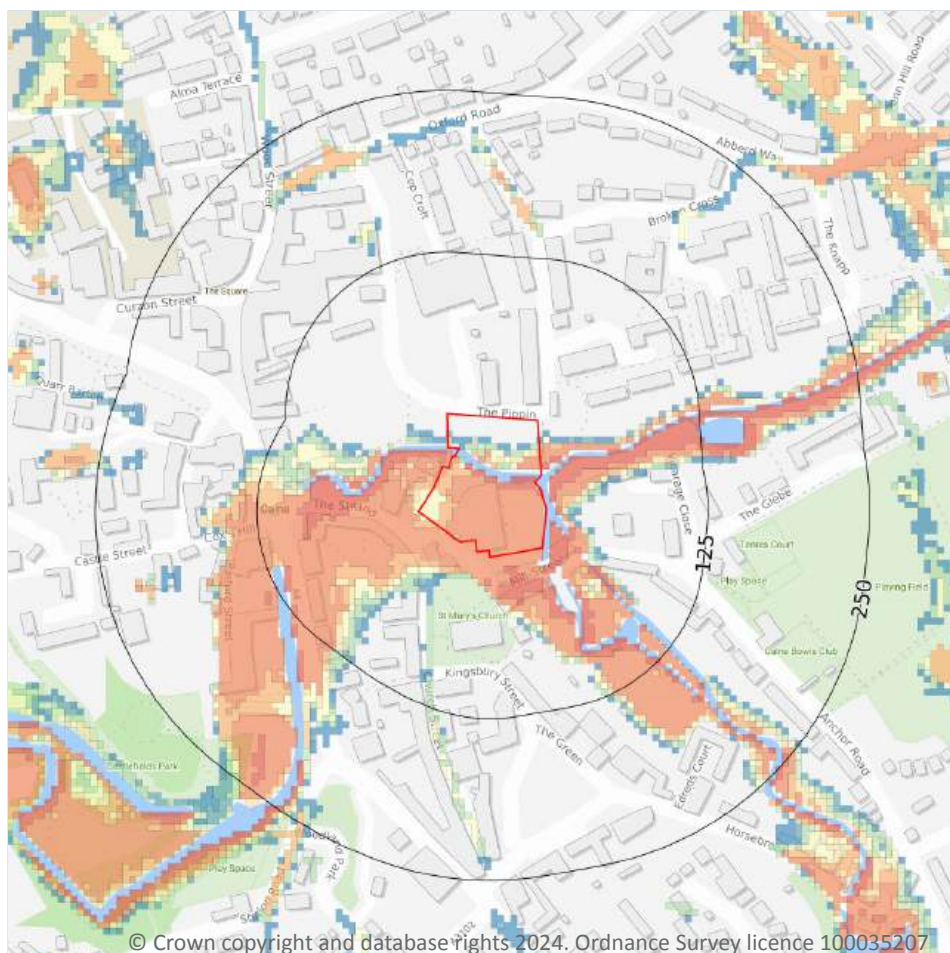
Features are displayed on the River and coastal flooding map on [page 64](#) >

Location	Type
On site	Zone 3 - (Fluvial 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

1 in 30 year, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 1.0m

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

Features are displayed on the Surface water flooding map on [page 70 >](#)

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

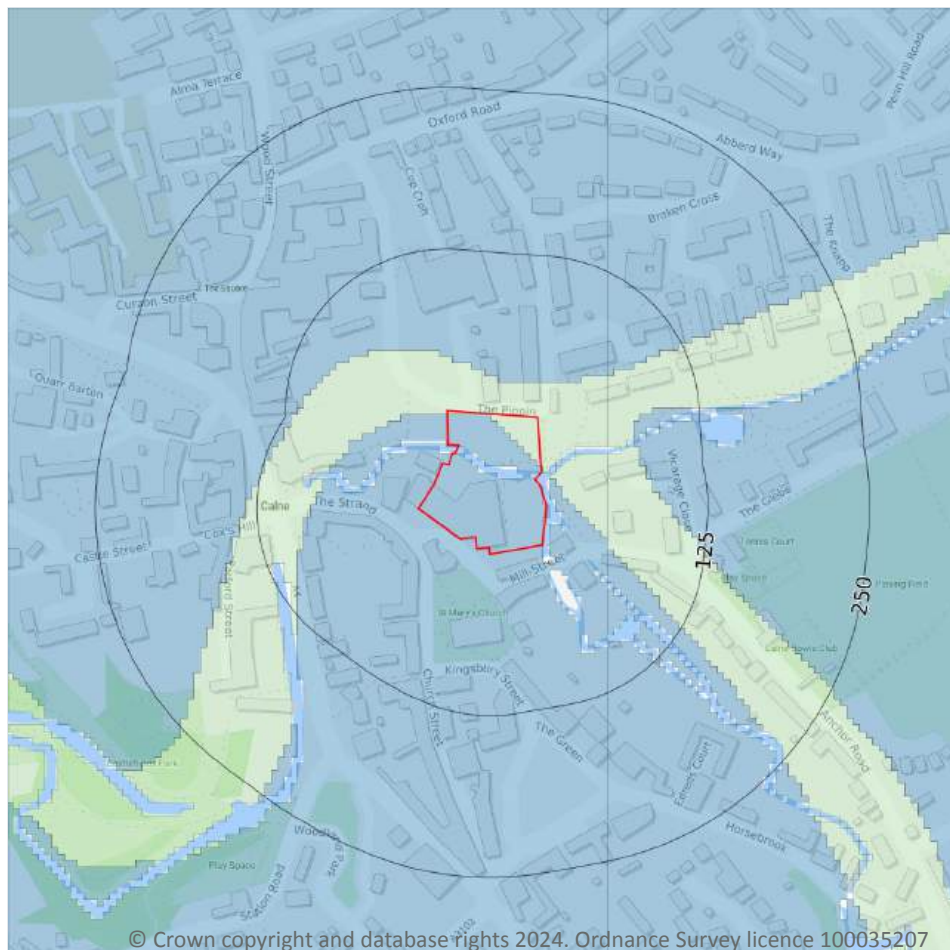
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

Low

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 72 >](#)

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m**0**

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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



10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

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

0

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

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



10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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**

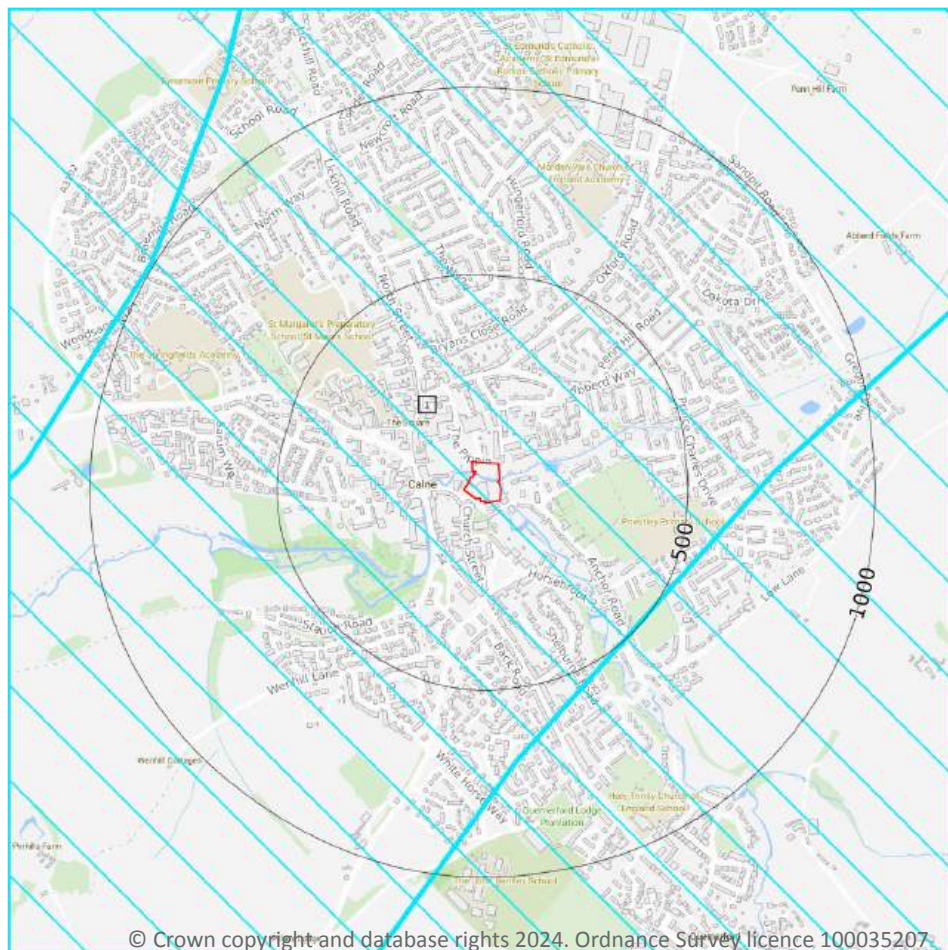
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	R Marden - source to conf Abberd Bk NVZ	Surface Water	562	Existing
On site	R Marden - conf Abberd Bk to conf unnamed trib NVZ	Surface Water	563	Existing
888m NW	Cowage Bk - conf unnamed trib to conf R Marden NVZ	Surface Water	571	Existing
1415m W	Willow Brook (Bristol Avon and North Somerset) NVZ	Surface Water	819	Existing

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



SSSI Impact Zones and Units



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

10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 77 >](#)

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

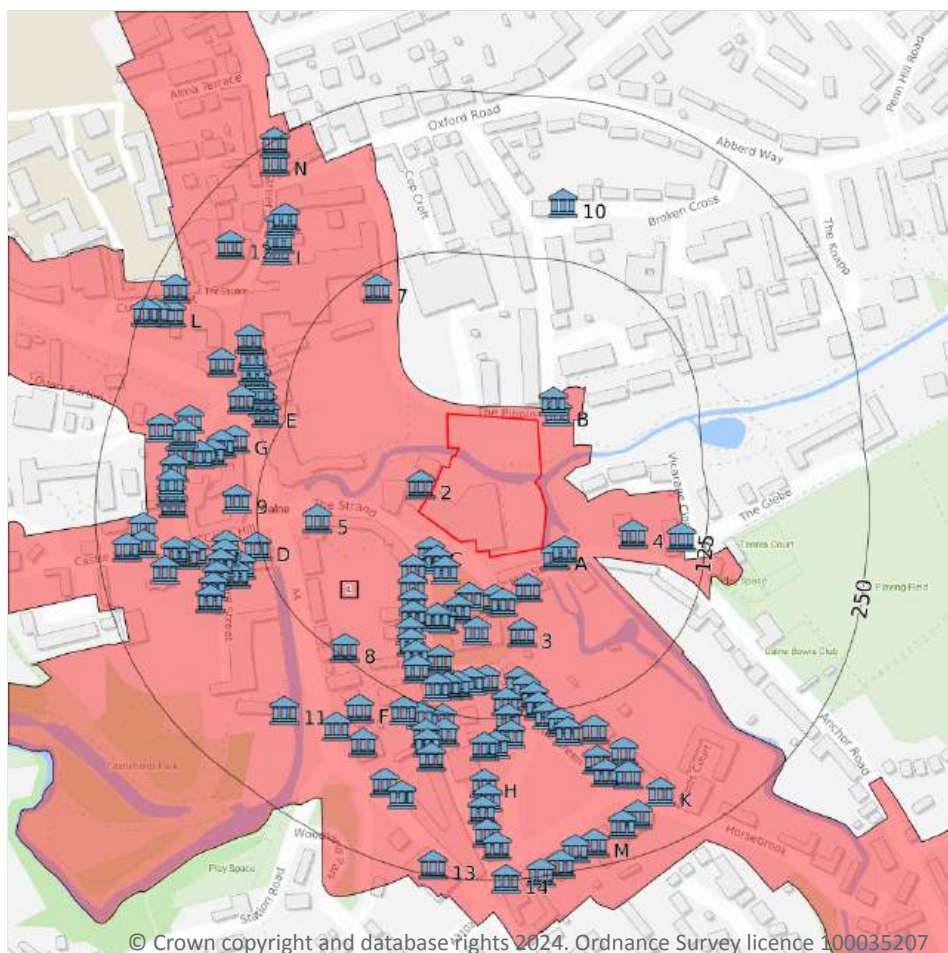
0

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

130

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 79 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
2	9m W	Calne Free Church	II	1247331	22/12/1995
A	12m SE	Pond Cottage	II	1247320	08/07/1976
B	17m NE	61, The Pippin	II	1247492	08/07/1976
A	17m SE	Calne Mill	II	1247321	08/07/1976
B	19m NE	55 And 57, The Pippin	II	1270865	08/07/1976
C	19m SW	26, Church Street	II	1246434	08/07/1976



ID	Location	Name	Grade	Reference Number	Listed date
C	21m SW	28, Church Street	II	1246436	08/07/1976
C	24m SW	Church House	II	1246438	08/07/1976
C	28m S	14-20, Mill Street	II	1270946	22/12/1995
C	32m S	Gates, Gate Piers And Walls To St Mary's Churchyard, Including Proclamation Steps	II	1247111	08/07/1976
C	34m S	Two Chest Tombs Approximately 15 Metres North Of The Tower Of Church Of St Mary	II	1247116	22/12/1995
C	36m S	21, Mill Street	II	1247322	08/07/1976
C	38m SW	13, Church Street	II	1246415	08/07/1976
C	47m S	Group Of Three Headstones Approximately 8 Metres North North West Of Church Of St Mary	II	1271029	22/12/1995
C	50m SW	Bentley House	II	1271361	08/07/1976
C	58m S	Church Of St Mary	I	1271365	19/05/1950
C	58m S	Chest Tomb Approximately 7 Metres From North West Corner Of Church Of St Mary	II	1246444	22/12/1995
C	59m SW	19, Church Street	II	1271362	08/07/1976
C	59m S	Headstone Approximately 13 Metres West North West Of Church Of St Mary	II	1271030	22/12/1995
3	62m S	Kingsbury House	II	1247467	08/07/1976
C	66m SW	21 And 23, Church Street	II	1246433	08/07/1976
4	69m E	The Vicarage	II	1247332	20/02/1975
5	78m W	Barclays Bank The Old Bank House	II	1247494	08/07/1976
C	79m SW	25, Church Street	II	1271363	08/07/1976
C	86m SW	27, Church Street	II	1246435	08/07/1976
C	88m S	Calne War Memorial	II	1438174	04/10/2016
C	92m SW	27a And 27b, Church Street	II	1271364	08/07/1976
C	94m S	The Tounson Almshouses	II*	1270992	19/05/1950
C	96m S	6 And 9, Kingsbury Street	II	1247307	08/07/1976
C	98m S	1 And 2, The Green	II	1247358	08/07/1976
C	101m S	29, Church Street	II	1246437	08/07/1976



ID	Location	Name	Grade	Reference Number	Listed date
C	102m S	4 And 5, Kingsbury Street	II	1247215	08/07/1976
C	104m S	3, The Green	II	1247406	19/05/1950
C	104m S	3, Kingsbury Street	II	1247306	08/07/1976
6	106m E	Coach House, Gazebo, Gate Piers And Garden Walls To The Vicarage	II	1247323	20/02/1975
C	108m S	1, Kingsbury Street	II	1270991	08/07/1976
7	111m NW	Zion Baptist Chapel And School Zion Chapel	II	1247493	08/07/1976
C	111m S	4, The Green	II	1270922	19/05/1950
C	112m S	33, The Green	II	1247466	08/07/1976
8	119m SW	Wiltshire County Library	II	1270950	08/07/1976
C	120m S	5, The Green	II	1247407	19/05/1950
C	125m S	31 And 32, The Green	II	1247465	08/07/1976
C	128m S	Weaver's House	II	1270883	19/05/1950
D	128m W	Town Hall	II	1270827	08/07/1976
C	129m S	32, Church Street	II	1246439	19/05/1950
C	133m S	37,39 And 40, Church Street	II	1246442	08/07/1976
C	135m S	6, The Green	II	1247408	08/07/1976
C	135m S	35, Church Street	II	1246441	08/07/1976
C	137m S	30, The Green	II	1270881	19/05/1950
E	140m W	8, High Street	II	1247209	19/05/1950
C	140m S	34 And 36, Church Street	II	1246440	08/07/1976
9	141m W	Lansdowne Arms Hotel And Former Coach House, Stable And Brewhouse	II*	1247495	19/05/1950
C	143m S	7, The Green	II*	1247409	08/07/1976
E	143m W	9, High Street	II	1270987	08/07/1976
D	143m W	Old Fire Station At Rear Of Town Hall	II	1247534	08/07/1976
C	145m S	29, The Green	II	1247464	08/07/1976
E	145m W	Lloyds Bank	II	1247210	08/07/1976
C	145m S	Raf Club	II*	1247102	19/05/1950



ID	Location	Name	Grade	Reference Number	Listed date
C	146m SE	8 And 9, The Green	II	1270886	02/04/1970
C	146m S	28, The Green	II	1270880	08/07/1976
D	149m W	7, Patford Street	II	1247349	08/07/1976
E	150m NW	12, High Street	II	1270988	08/07/1976
F	151m SW	Kerry Crescent	II	1247328	08/07/1976
C	151m S	42 And 43, Church Street	II	1246443	08/07/1976
D	151m W	1, Patford Street	II	1247339	02/04/1970
G	152m W	6, High Street	II	1247208	08/07/1976
D	154m W	2 And 3, Patford Street	II	1247340	19/05/1950
E	154m NW	13, High Street	II	1247211	08/07/1976
E	157m NW	15,16 And 17, High Street	II	1270989	08/07/1976
D	158m W	4, Patford Street	II	1270924	02/04/1970
E	159m W	Two K6 Telephone Kiosks Approximately 20 Metres South Of Kings Arms Public House	II	1247213	23/03/1989
C	161m S	44 And 45, Church Street	II	1271047	08/07/1976
G	161m W	1, Market Hill	II	1247317	02/04/1970
D	163m W	5, Patford Street	II	1270925	02/04/1970
E	163m NW	19 And 21, High Street	II	1270990	08/07/1976
G	166m W	Dominion House	II	1270943	02/04/1970
C	169m S	Sheldon House	II	1247410	19/05/1950
D	169m W	Patford House	II	1247341	02/04/1970
10	169m N	17 And 19, The Pippin	II	1247468	22/12/1995
C	169m SE	Little Sheldon	II	1247412	08/07/1976
F	172m SW	8, New Road	II	1247324	22/12/1995
F	172m SW	Front Curtilage Wall To Nos 1,2 And 3 Kerry Crescent	II	1270949	08/07/1976
D	175m W	House To South Of Patford House	II	1247342	02/04/1970
H	175m S	24 And 25, The Green	II	1247463	08/07/1976
G	175m W	3, Market Hill	II*	1247318	19/05/1950
D	176m W	3, Castle Street	II	1271379	08/07/1976



ID	Location	Name	Grade	Reference Number	Listed date
E	179m NW	Kings Arms Public House	II	1247212	08/07/1976
C	181m S	12, The Green	II	1270887	19/05/1950
I	183m NW	5, Wood Street	II	1247535	08/07/1976
D	183m W	5, Castle Street	II	1246406	08/07/1976
11	185m SW	Marden House Centre	II	1247334	08/07/1976
H	186m S	23a, The Green	II	1247441	08/07/1976
C	187m SE	Adam House	II*	1247413	19/05/1950
I	188m NW	7, Wood Street	II	1247551	08/07/1976
G	190m W	16, Castle Street	II	1246412	08/07/1976
G	190m W	4, Castle Street	II	1246405	19/05/1950
D	191m W	Entrance Gate Piers To Castle House	II	1246409	08/07/1976
G	191m W	5, Market Hill	II	1270944	08/07/1976
G	192m W	14, Castle Street	II	1246411	08/07/1976
G	192m W	6 And 8, Castle Street	II	1246407	08/07/1976
G	192m W	West Hill House	II*	1247319	19/05/1950
G	192m W	12, Castle Street	II	1246410	08/07/1976
J	192m S	Ivy House	II	1247325	08/07/1976
H	195m S	23, The Green	II	1247440	08/07/1976
I	196m NW	9, Wood Street	II	1247552	08/07/1976
J	196m S	20, New Road	II	1247326	08/07/1976
I	197m NW	9a And 9b, Wood Street	II	1247553	08/07/1976
D	201m W	Castle House	II	1246408	19/05/1950
G	209m W	12, Quarr Barton	II	1270930	08/07/1976
K	210m SE	Maundrell House	II	1247214	08/07/1976
H	213m S	21 And 22, The Green	II	1247439	08/07/1976
12	213m NW	6 And 8, Wood Street	II	1270833	21/11/1995
D	214m W	18, Castle Street	II	1271380	22/12/1995
D	214m W	20, Castle Street	II	1246413	08/07/1976



ID	Location	Name	Grade	Reference Number	Listed date
K	219m SE	14, The Green	II	1270900	08/07/1976
K	223m S	15, The Green	II	1247435	02/04/1970
H	223m S	The Old School House	II	1247438	08/07/1976
L	227m NW	6, Curzon Street	II*	1247118	19/05/1950
D	228m W	No 22 And Attached Wall And Gate Piers	II	1271381	08/07/1976
L	232m NW	St Cecilia's	II*	1247117	19/05/1950
M	232m S	Masonic Hall	II	1270901	22/12/1995
M	233m S	18, The Green	II	1247436	08/07/1976
N	236m NW	6, North Street	II	1247335	08/07/1976
L	239m NW	8, Curzon Street	II	1247119	08/07/1976
13	242m S	Harris Social And Welfare Club	II	1247327	08/07/1976
M	243m S	Priestley's House	II*	1270902	19/05/1950
L	246m NW	10, Curzon Street	II	1247120	08/07/1976
M	247m S	20, The Green	II*	1247437	19/05/1950
14	249m S	K6 Telephone Kiosk North Of White Hart Hotel	II	1270882	27/01/1989
N	249m NW	10 And 12, North Street	II	1270951	22/12/1995

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

11.5 Conservation Areas

Records within 250m

1

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

Features are displayed on the Visual and cultural designations map on [page 79](#) >

ID	Location	Name	District	Date of designation
1	On site	Calne	Wiltshire	1973

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

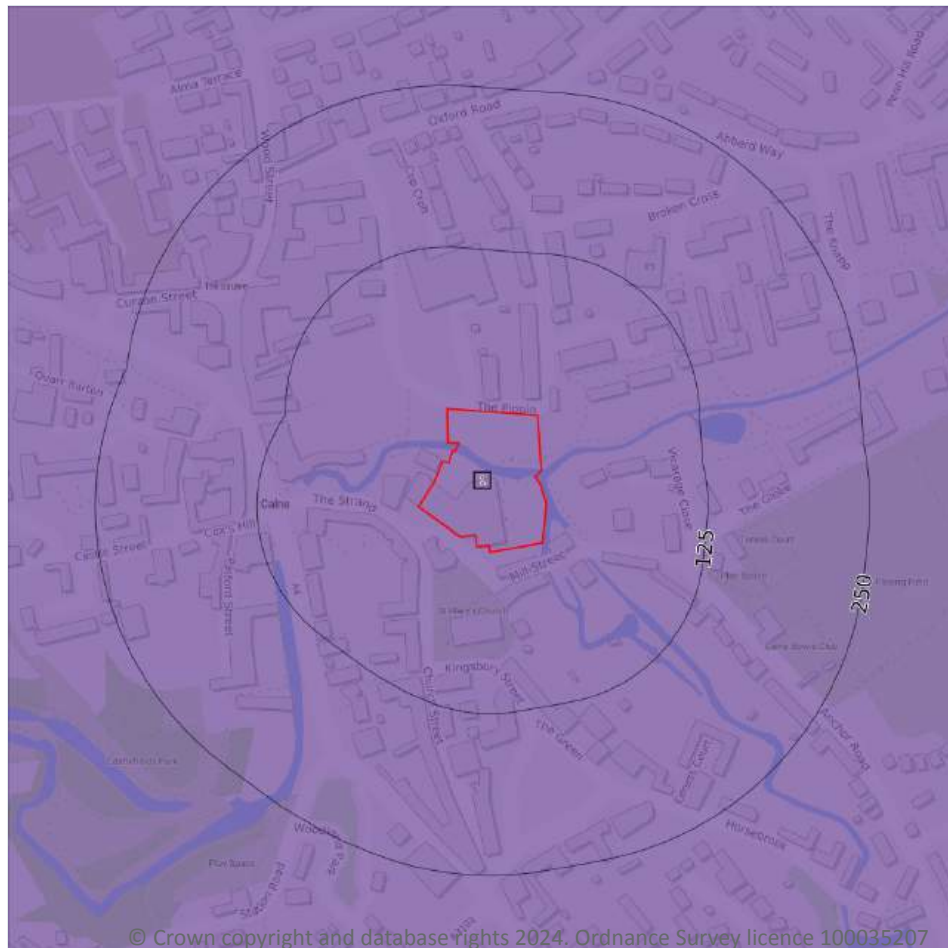
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Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, 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 87](#) >

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

6

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 89](#) >

ID	Location	Main Habitat	Other habitats
1	22m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	54m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	176m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	213m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	234m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	243m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 91](#) >

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

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 95](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	EW266_marlborough_v4

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 97](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m**1**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

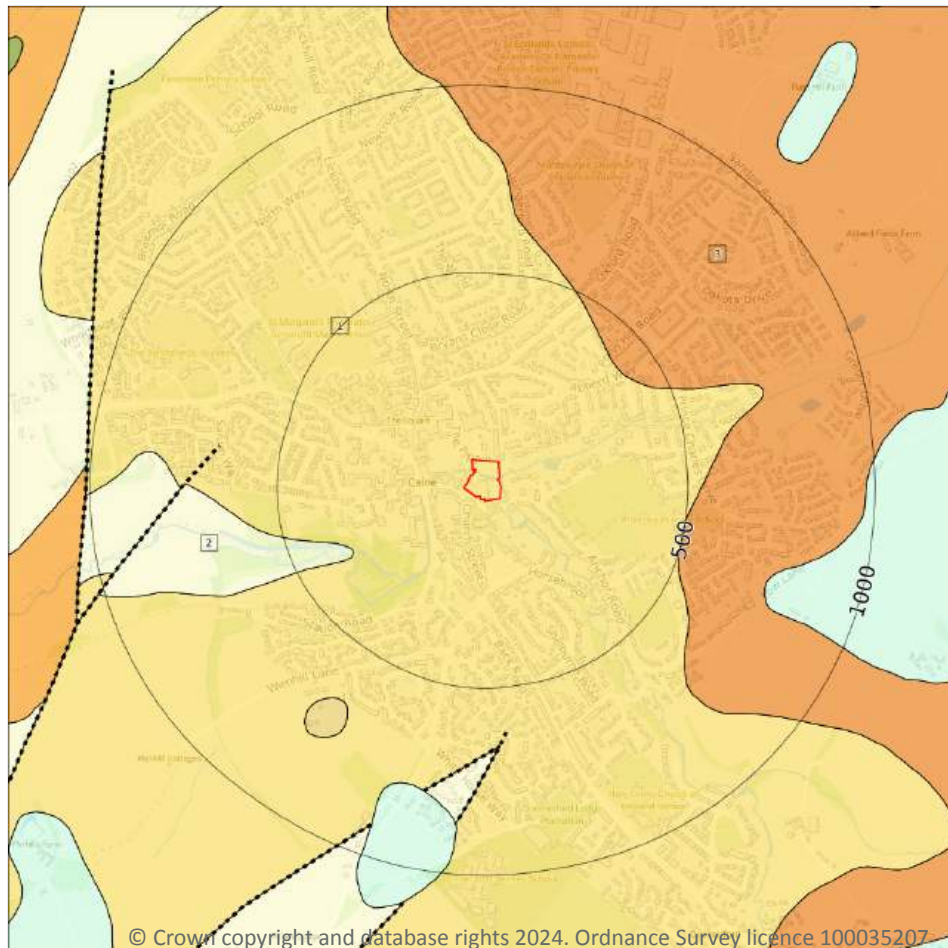
Records within 50m**0**

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

3

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 99](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	STFD-LMST	STANFORD FORMATION - LIMESTONE	OXFORDIAN
2	341m SW	KTON-STMD	KINGSTON FORMATION - SANDSTONE AND MUDSTONE	OXFORDIAN
3	404m NE	KC-MDST	KIMMERIDGE CLAY FORMATION - MUDSTONE	KIMMERIDGIAN

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m**2**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Very High	High
47m E	Fracture	Very High	High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

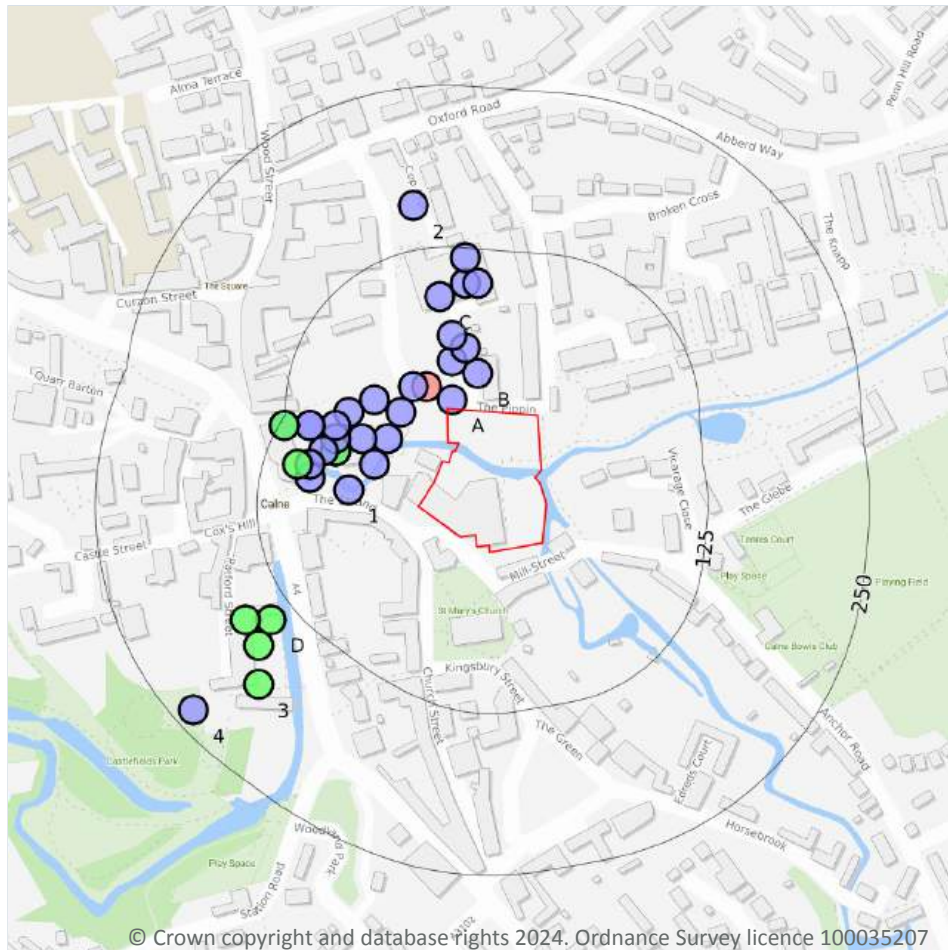
Records within 500m**0**

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

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

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

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16.1 BGS Boreholes

Records within 250m

36

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

Features are displayed on the Boreholes map on [page 101](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	7m NW	399880 171080	STORE AND LIBRARY CALNE TP J7	2.0	N	397622 ↗
A	23m NW	399860 171090	CALNE WITHIN	249.93	N	397588 ↗
B	29m N	399900 171100	STORE AND LIBRARY CALNE TP J11	1.0	N	397626 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
A	31m NW	399850 171090	STORE AND LIBRARY CALNE TP J6	2.0	N	397621 ↗
A	36m NW	399840 171070	STORE AND LIBRARY CALNE TP J8	3.0	N	397623 ↗
B	37m N	399880 171110	STORE AND LIBRARY CALNE TP J5	1.0	N	397620 ↗
A	46m W	399830 171050	STORE AND LIBRARY CALNE TP J9	3.0	N	397624 ↗
A	46m W	399820 171030	CALNE TP 6	1.0	N	397597 ↗
B	48m N	399890 171120	STORE AND LIBRARY CALNE TP J4	1.0	N	397619 ↗
1	55m W	399800 171010	CALNE TP 7	0.0	N	397598 ↗
A	56m NW	399820 171080	STORE AND LIBRARY CALNE TP J10	3.0	N	397625 ↗
B	57m N	399880 171130	STORE AND LIBRARY CALNE TP J3	1.0	N	397618 ↗
A	65m W	399810 171050	STORE AND LIBRARY CALNE L4	10.0	N	397615 ↗
A	76m NW	399800 171070	STORE AND LIBRARY CALNE L2	10.0	N	397613 ↗
A	77m W	399790 171040	STORE AND LIBRARY CALNE TP L2	1.0	N	397628 ↗
A	77m W	399790 171040	CALNE 3	15.0	N	397591 ↗
A	82m W	399790 171050	CALNE TP 4	2.0	N	397595 ↗
A	85m W	399780 171040	STORE AND LIBRARY CALNE L3	10.0	N	397614 ↗
A	86m W	399790 171060	STORE AND LIBRARY CALNE TP L1	3.0	N	397627 ↗
A	87m W	399770 171020	CALNE TP 5	2.0	N	397596 ↗
C	87m N	399870 171160	STORE AND LIBRARY CALNE J3	10.0	N	397610 ↗
A	90m W	399770 171030	CALNE TP 3	2.0	N	397594 ↗
C	98m N	399890 171170	STORE AND LIBRARY CALNE TP J2	1.0	N	397617 ↗
C	98m N	399900 171170	STORE AND LIBRARY CALNE J4	6.0	N	397611 ↗
A	100m W	399760 171030	CALNE 2	14.0	N	397590 ↗
A	105m W	399770 171060	CALNE TP 2	0.0	N	397593 ↗
A	105m W	399770 171060	STORE AND LIBRARY CALNE L1	10.0	N	397612 ↗
C	118m N	399890 171190	STORE AND LIBRARY CALNE J2	4.0	N	397609 ↗
A	121m W	399750 171060	CALNE TP 1	2.0	N	397592 ↗
A	121m W	399750 171060	CALNE 1	16.0	N	397589 ↗
D	144m SW	399740 170910	THE WHARF PATFORD STREET CALNE 5	13.0	N	17892063 ↗

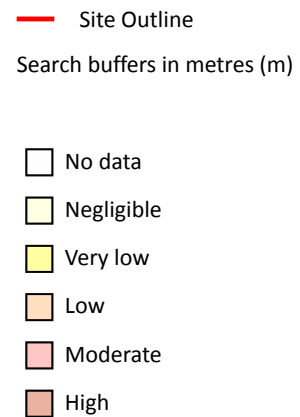


ID	Location	Grid reference	Name	Length	Confidential	Web link
2	159m N	399850 171230	STORE AND LIBRARY CALNE TP J1	1.0	N	397616 ↗
D	160m SW	399720 170910	THE WHARF PATFORD STREET CALNE 4	12.5	N	17892062 ↗
D	164m SW	399730 170890	THE WHARF PATFORD STREET CALNE 3	12.5	N	17892061 ↗
3	185m SW	399730 170860	THE WHARF PATFORD STREET CALNE 2	12.3	N	17892060 ↗
4	235m SW	399680 170840	THE WHARF PATFORD STREET CALNE 1	9.5	N	17891969 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

4

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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 104](#) >

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
15m E	Negligible	Ground conditions predominantly non-plastic.

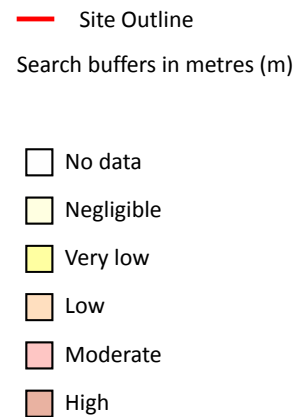
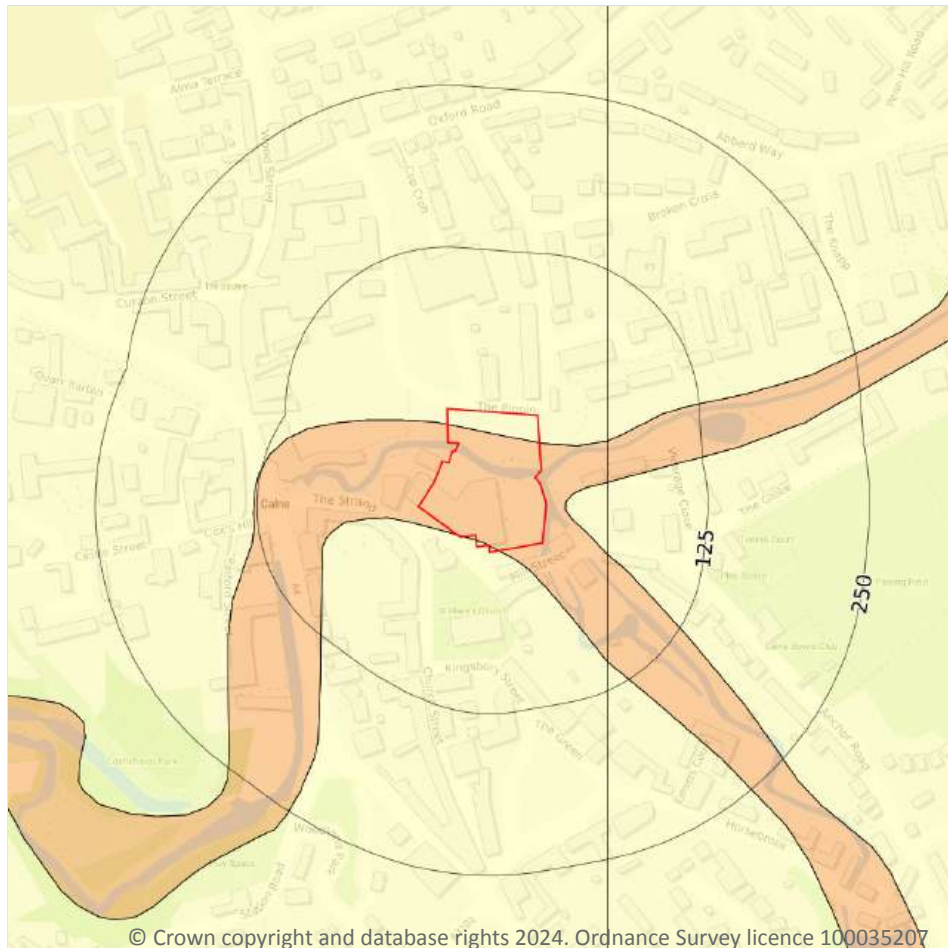


Location	Hazard rating	Details
47m E	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

4

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 106](#) >

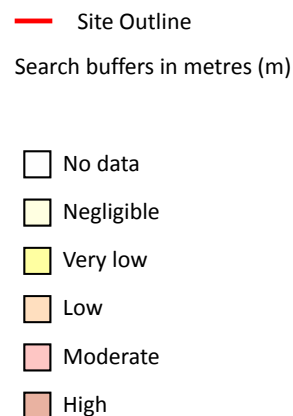
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
15m E	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.
47m E	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

4

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 108](#) >

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

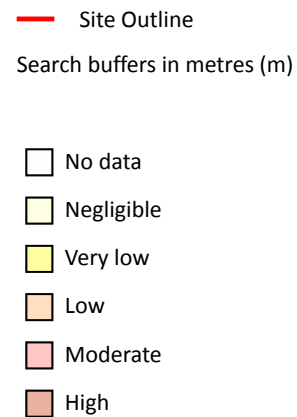
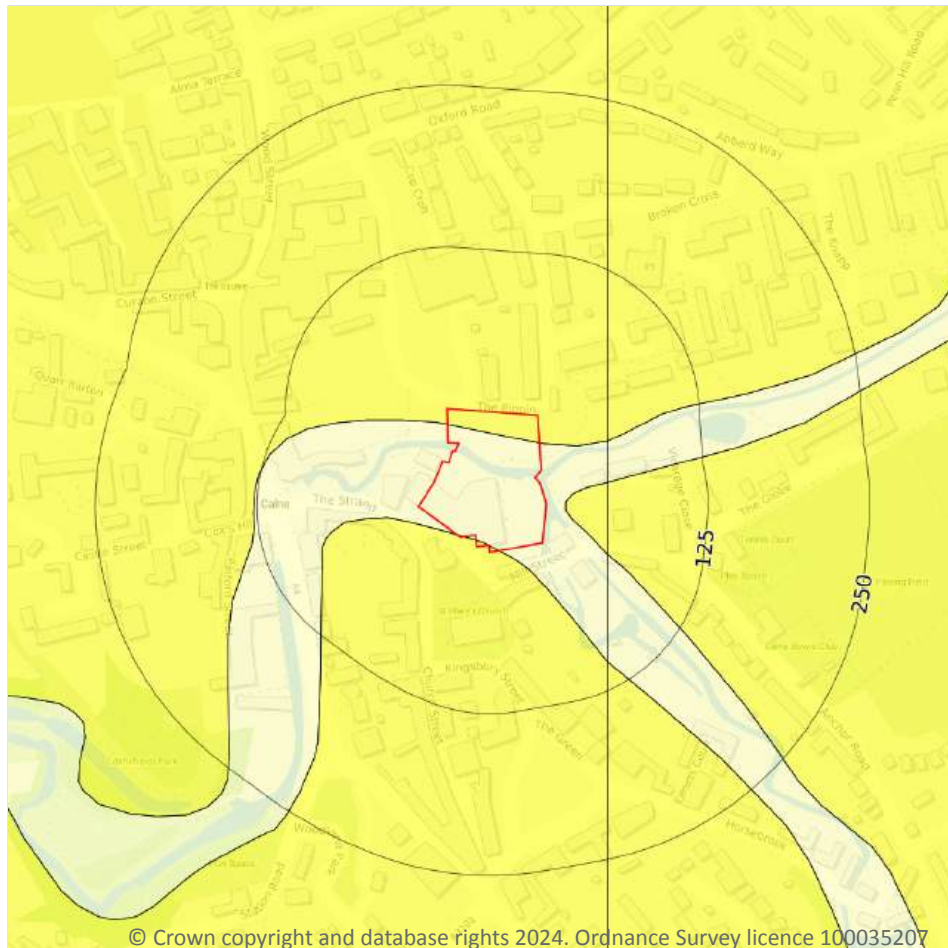


Location	Hazard rating	Details
15m E	Negligible	Compressible strata are not thought to occur.
47m E	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

4

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

Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 110 >](#)

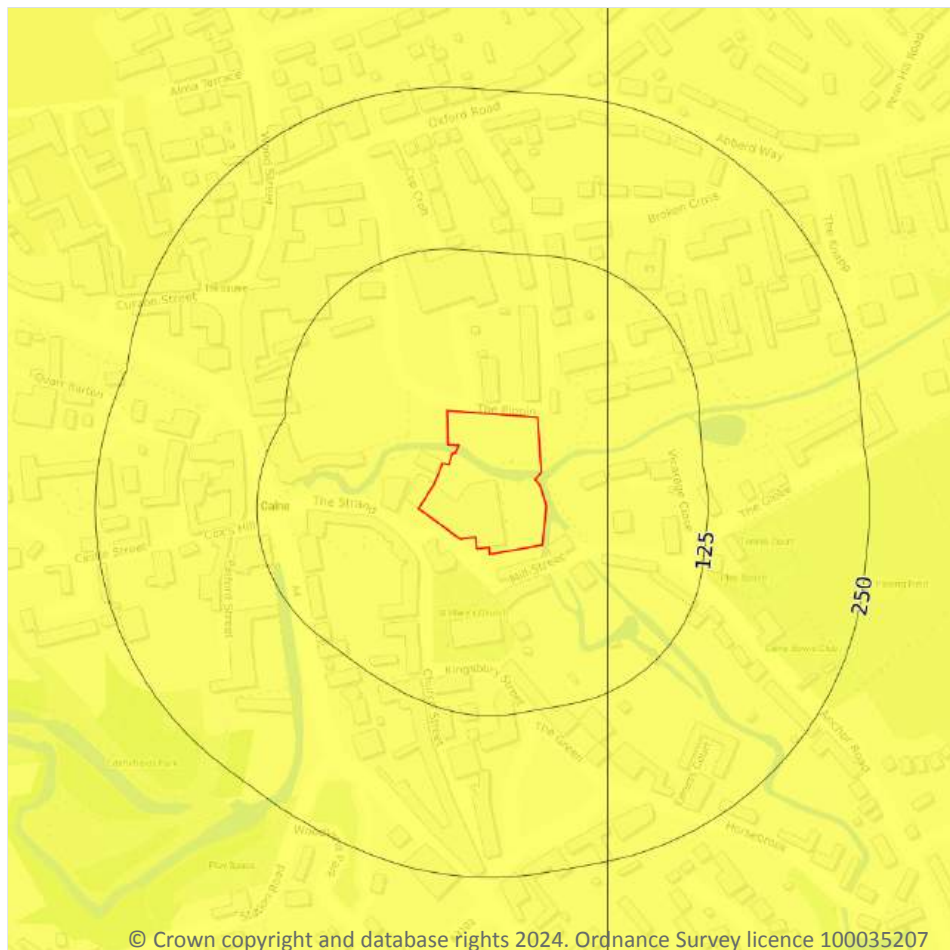
Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
15m E	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.



Location	Hazard rating	Details
47m E	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Landslides map on [page 112 >](#)

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

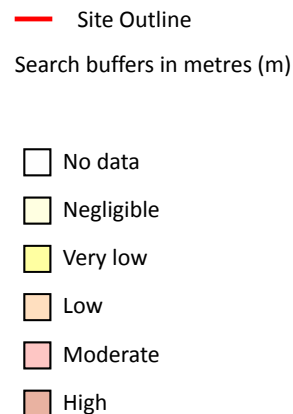
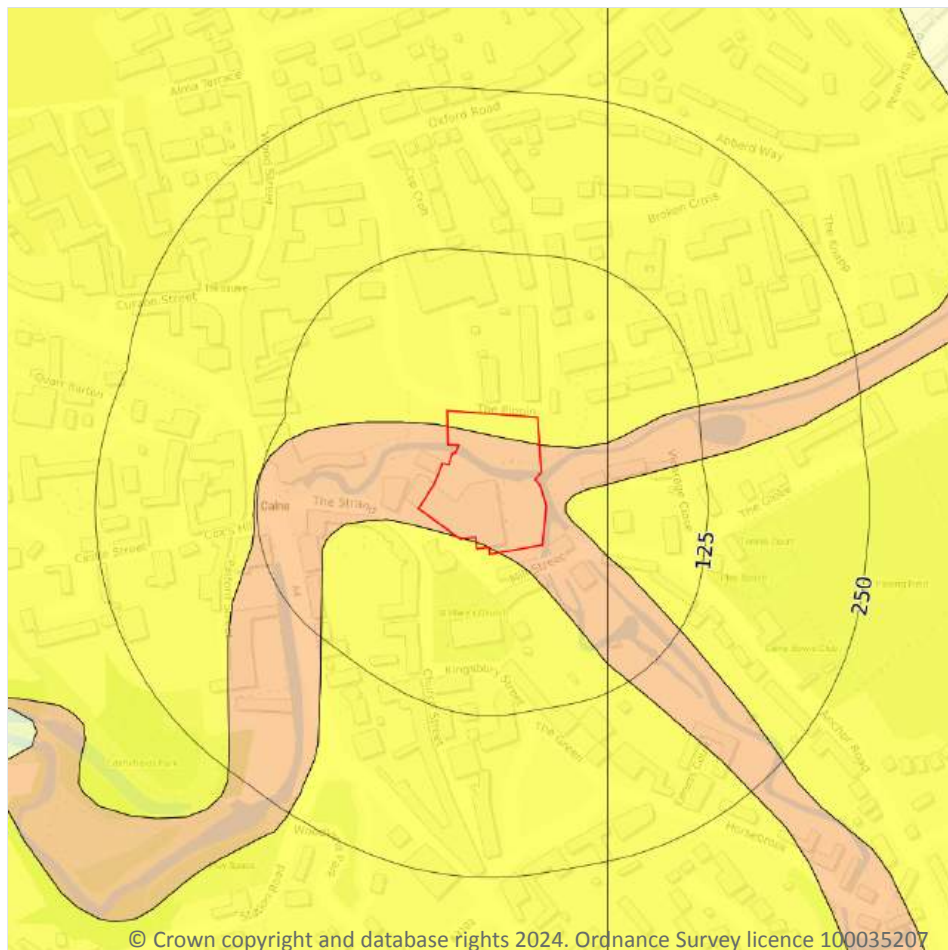


Location	Hazard rating	Details
47m E	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

4

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 114](#) >

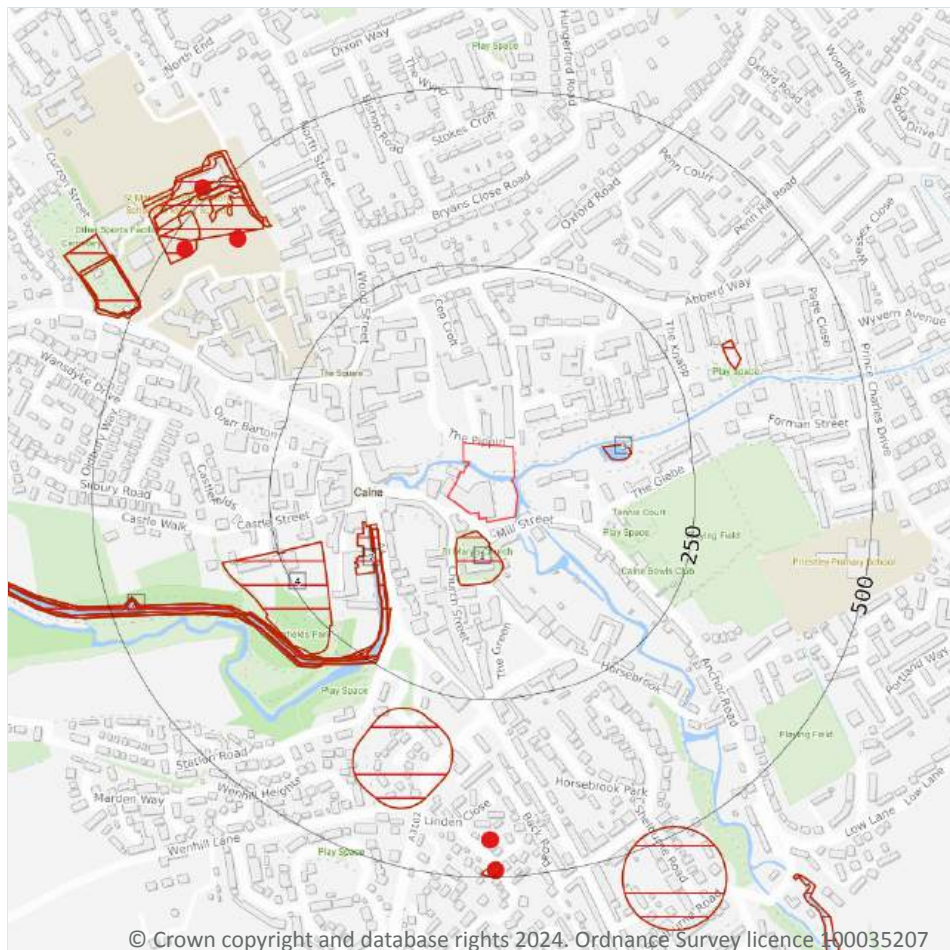
Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

Location	Hazard rating	Details
On site	Low	Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.
15m E	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.
47m E	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- Non Coal Mining
 - Sporadic underground mining of restricted extent possible
 - Localised small scale underground mining possible
 - Small scale mining possible
 - Underground mining known or likely within or in close proximity
 - Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

4

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

Features are displayed on the Mining and ground workings map on [page 116](#) >



ID	Location	Details	Description
7	427m NW	Name: Calne Quarries Address: CALNE, Wiltshire Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	446m S	Name: Calne Quarry Address: CALNE, Wiltshire Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	476m NW	Name: Calne Quarries Address: CALNE, Wiltshire Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	489m S	Name: Calne Quarry Address: CALNE, Wiltshire Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

10

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

Features are displayed on the Mining and ground workings map on [page 116](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
1	17m S	Grave Yard	1885	1:10560
A	107m W	Canal	1885	1:10560
A	108m SW	Old Canal	1960	1:10560
A	108m SW	Old Canal	1982	1:10000
2	117m W	Unspecified Wharf	1885	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
3	126m E	Pond	1980	1:10000
A	174m SW	Disused Canal	1938	1:10560
A	174m SW	Disused Canal	1922	1:10560
A	174m SW	Disused Canal	1899	1:10560
4	188m W	Burial Ground	1885	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.



18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.



18.10 Mining record office plans

Records within 500m**0**

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m**0**

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site**0**

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

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

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

18.14 Gypsum areas

Records on site**0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0
-----------------	---

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

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



19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

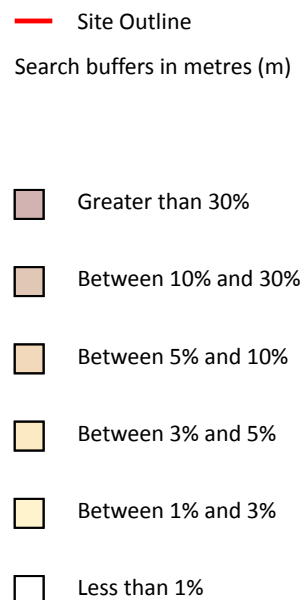
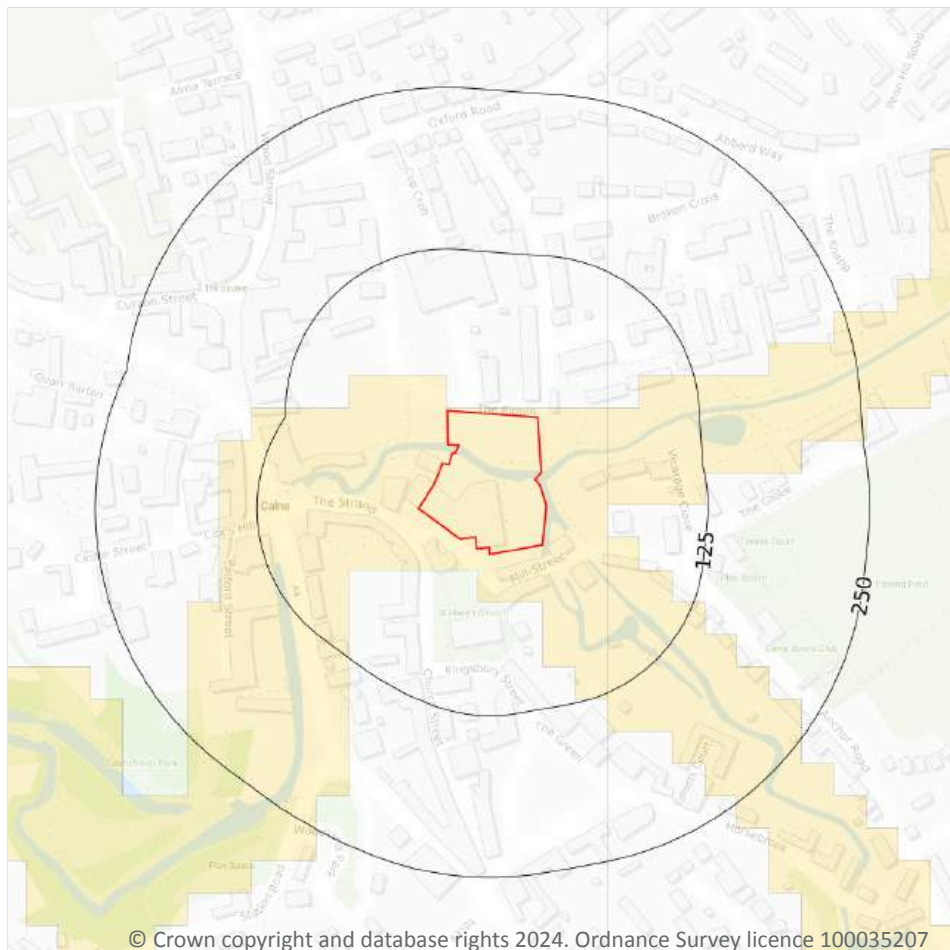
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 124 >](#)

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 1% and 3%	None



This data is sourced from the British Geological Survey and UK Health Security Agency.



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

11

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
21m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
26m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
47m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
47m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
47m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
47m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
50m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
50m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.



21.2 BGS Estimated Urban Soil Chemistry

Records within 50m**0**

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m**0**

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m**0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m**0**

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m**0**

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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Appendix H – Historical Maps

Site Details:

Mill Street, Calne

Client Ref: 19356
Report Ref: GS-PZ5-DRN-W2W-RTF
Grid Ref: 399903, 171017

Map Name: County Series

Map date: 1900

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
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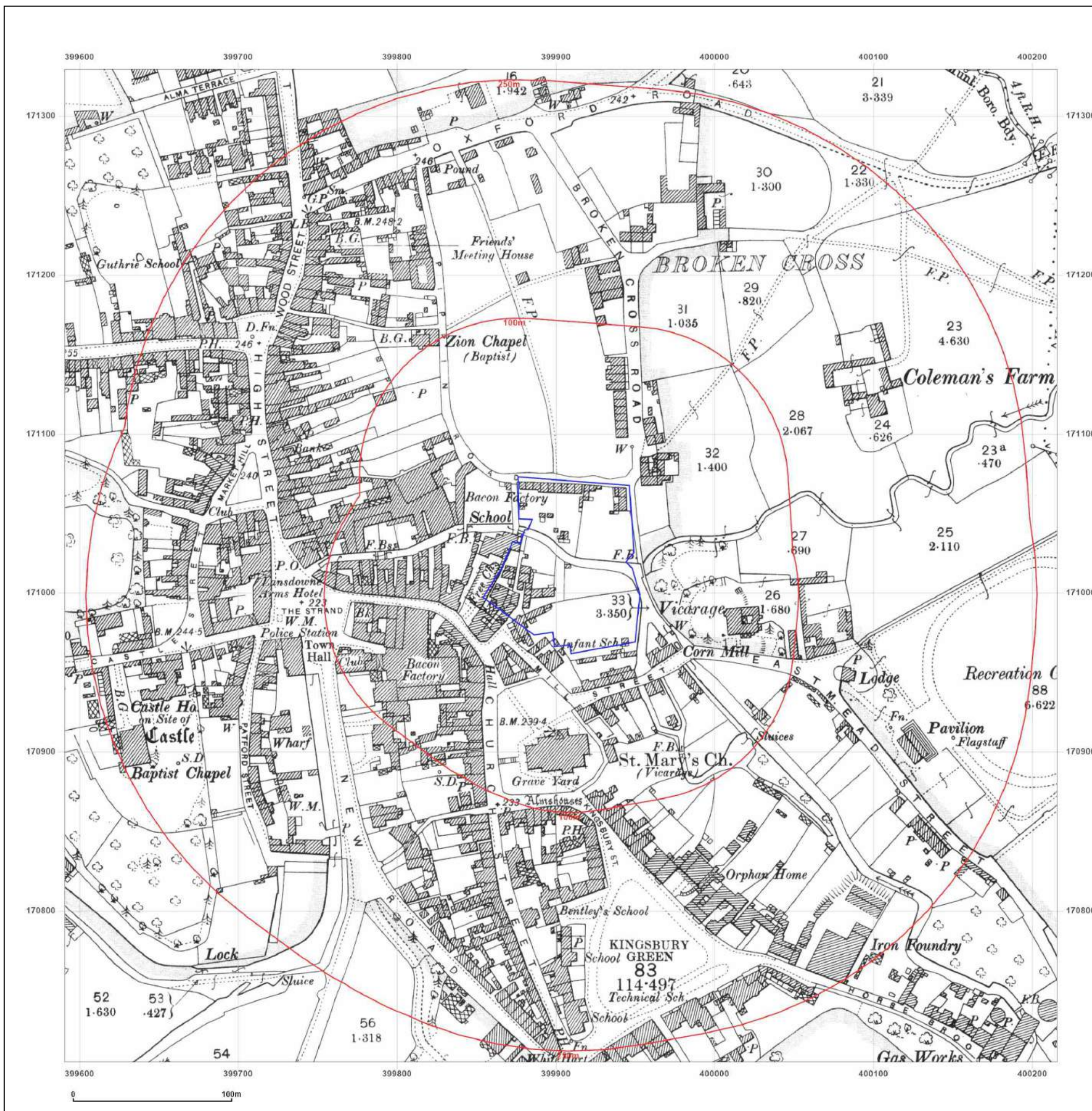


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Site Details:

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Client Ref: 19356
Report Ref: GS-PZ5-DRN-W2W-RTF
Grid Ref: 399903, 171017

Map Name: County Series

Map date: 1924

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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Client Ref: 19356
Report Ref: GS-PZ5-DRN-W2W-RTF
Grid Ref: 399903, 171017

Map Name: County Series

Map date: 1936

Scale: 1:2,500

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Site Details:

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Client Ref: 19356
Report Ref: GS-PZ5-DRN-W2W-RTF
Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1968-1970

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed 1968
Revised 1968
Edition N/A
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Client Ref: 19356
Report Ref: GS-PZ5-DRN-W2W-RTF
Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1970-1974

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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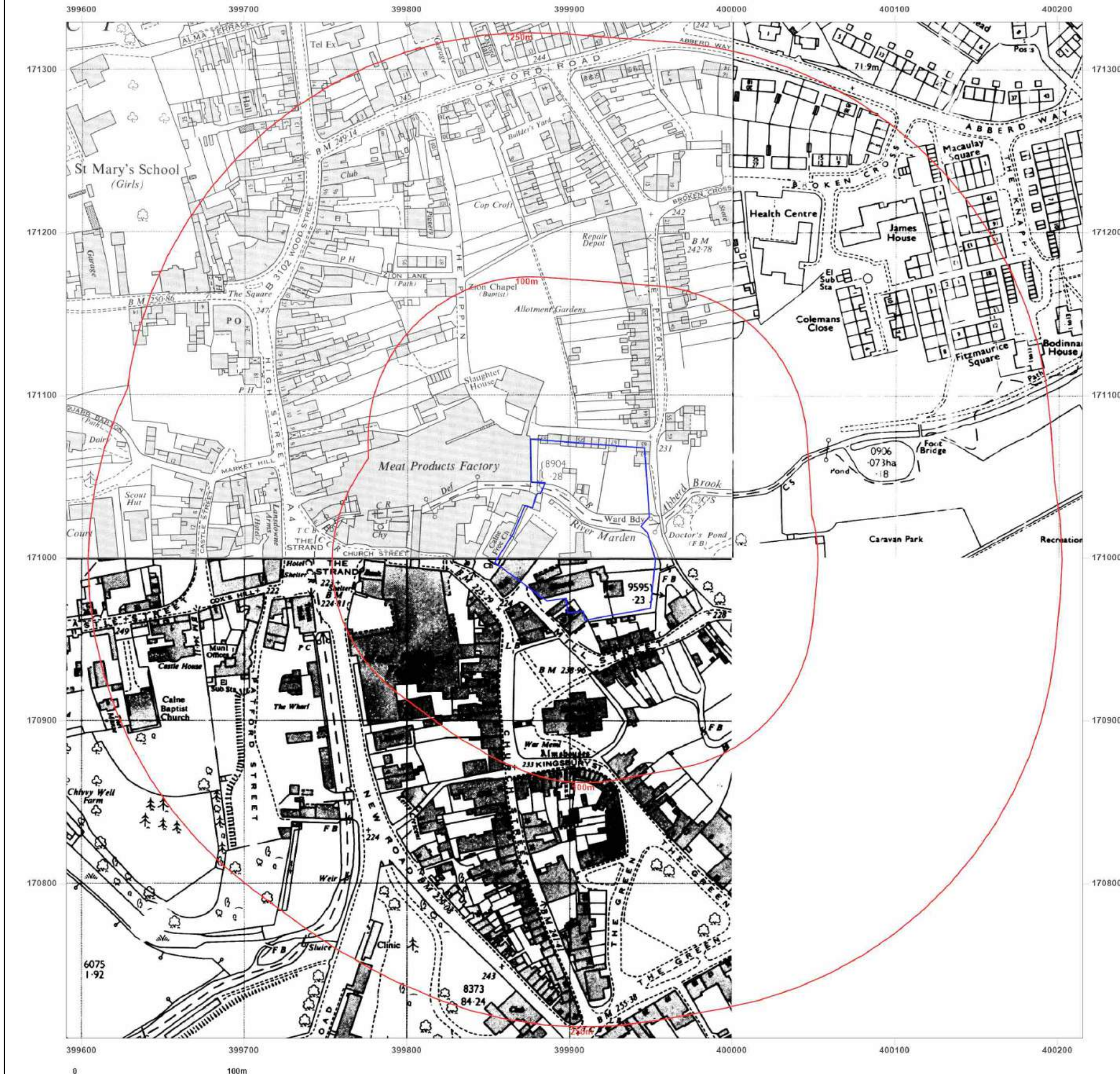


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Report Ref: GS-PZ5-DRN-W2W-RTF
Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1975-1978

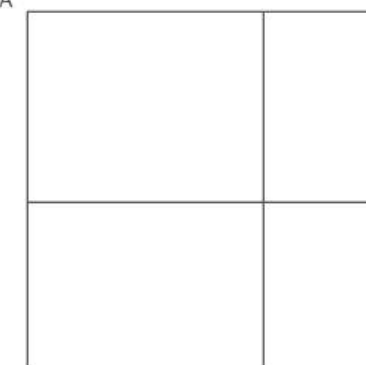
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Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1986-1988

Scale: 1:2,500

Printed at: 1:2,500



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Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1987-1989

Scale: 1:2,500

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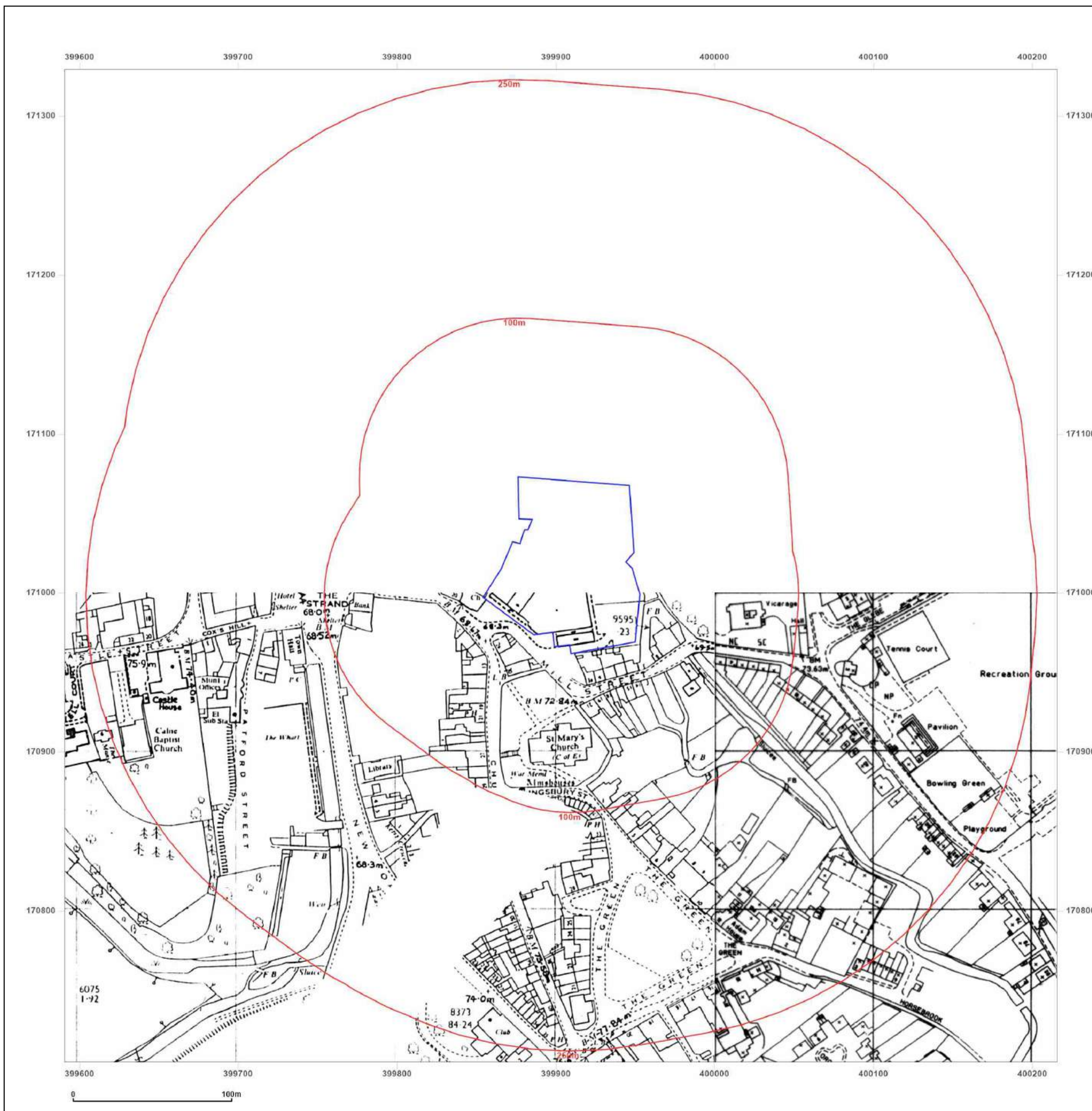


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Report Ref: GS-PZ5-DRN-W2W-RTF
Grid Ref: 399903, 171017

Map Name: National Grid

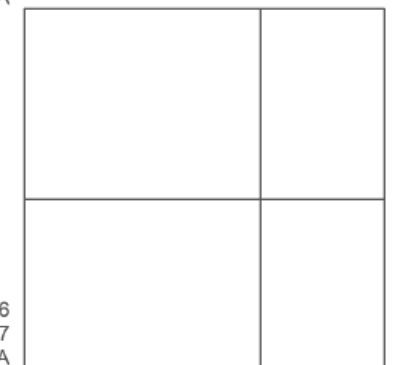
Map date: 1987-1992

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Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1989-1994

Scale: 1:2,500

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Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1991-1994

Scale: 1:2,500

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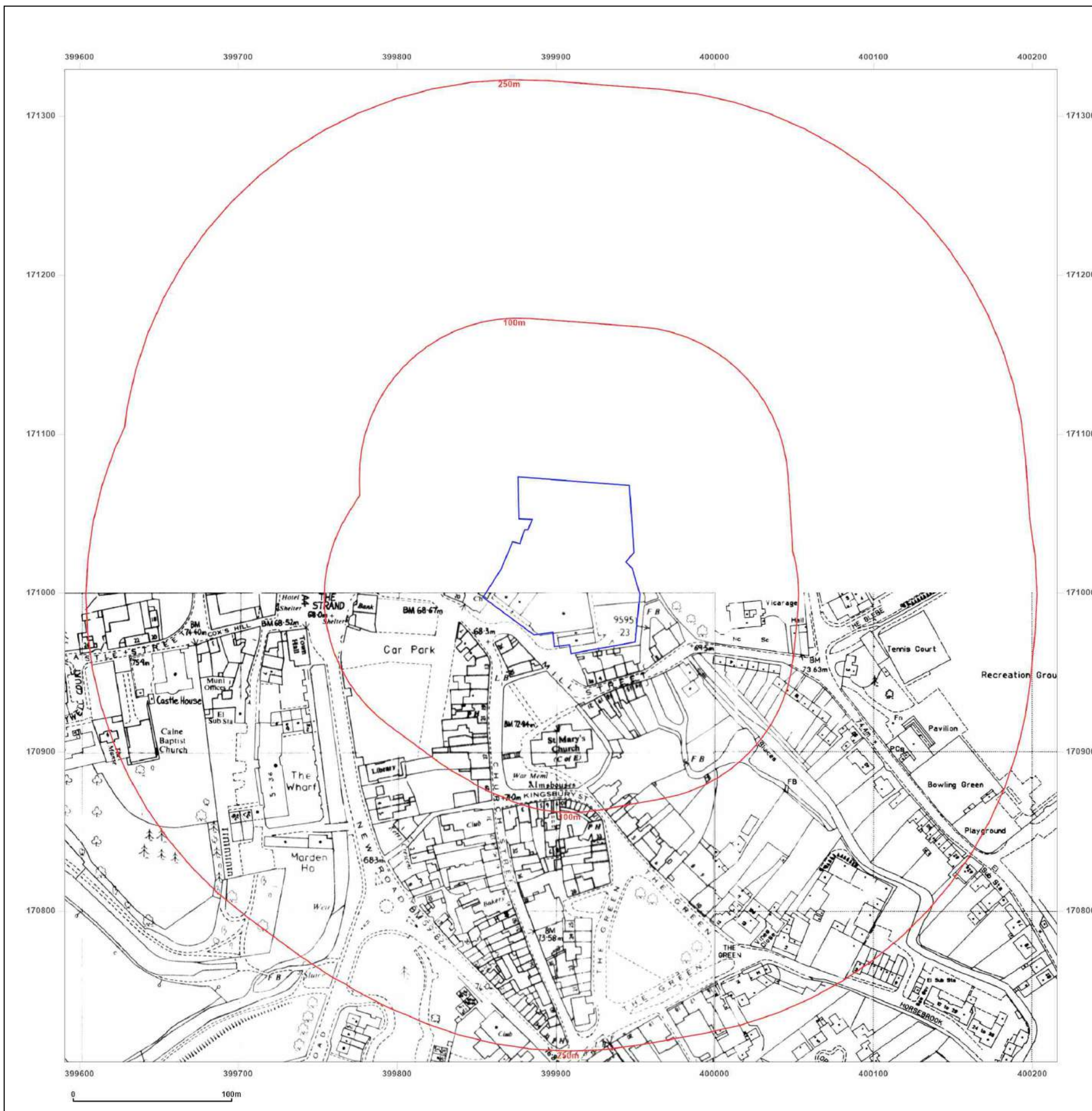


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Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1994-1995

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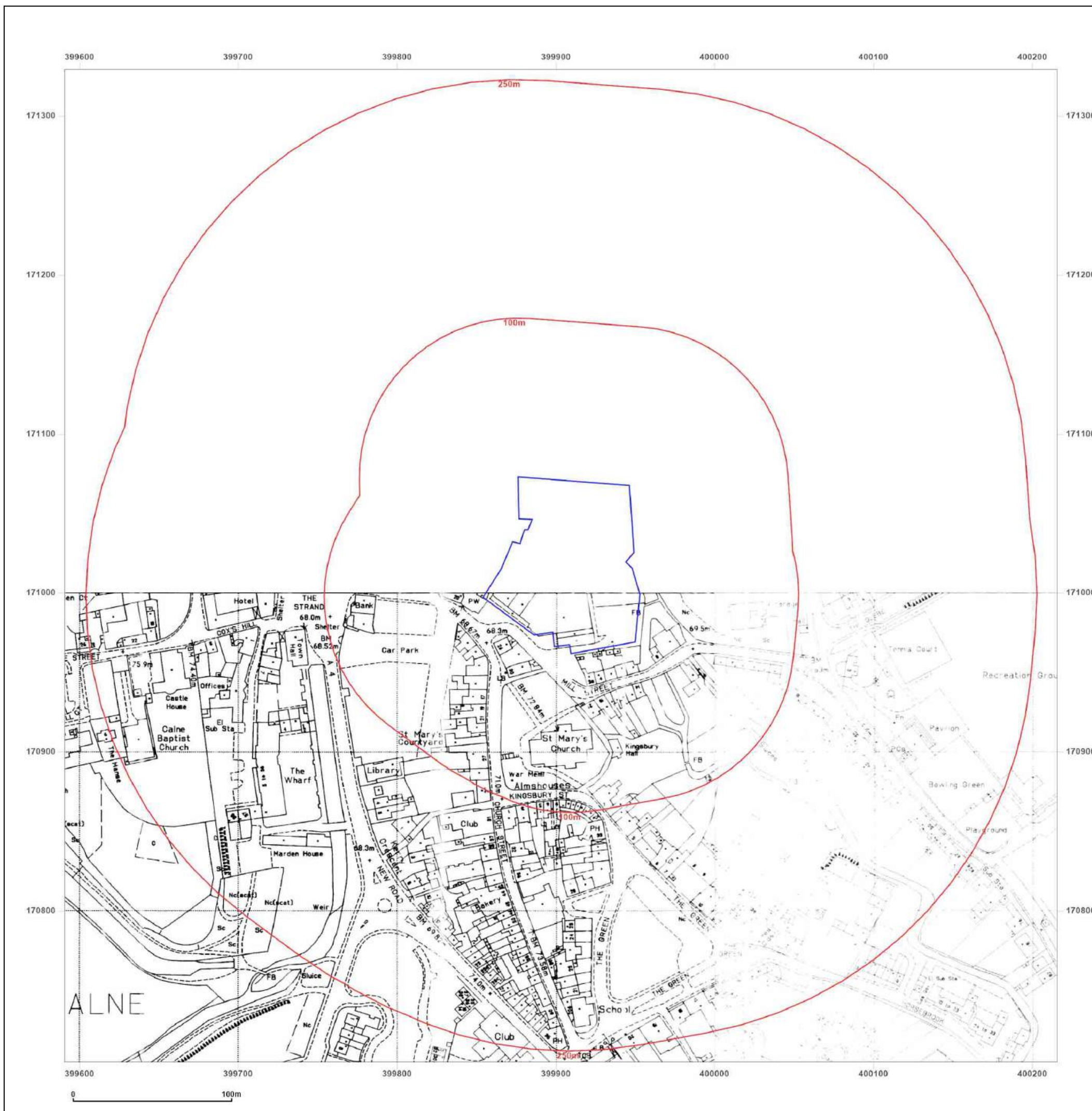


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Grid Ref: 399903, 171017

Map Name: National Grid

Map date: 1995

Scale: 1:2,500

Printed at: 1:2,500



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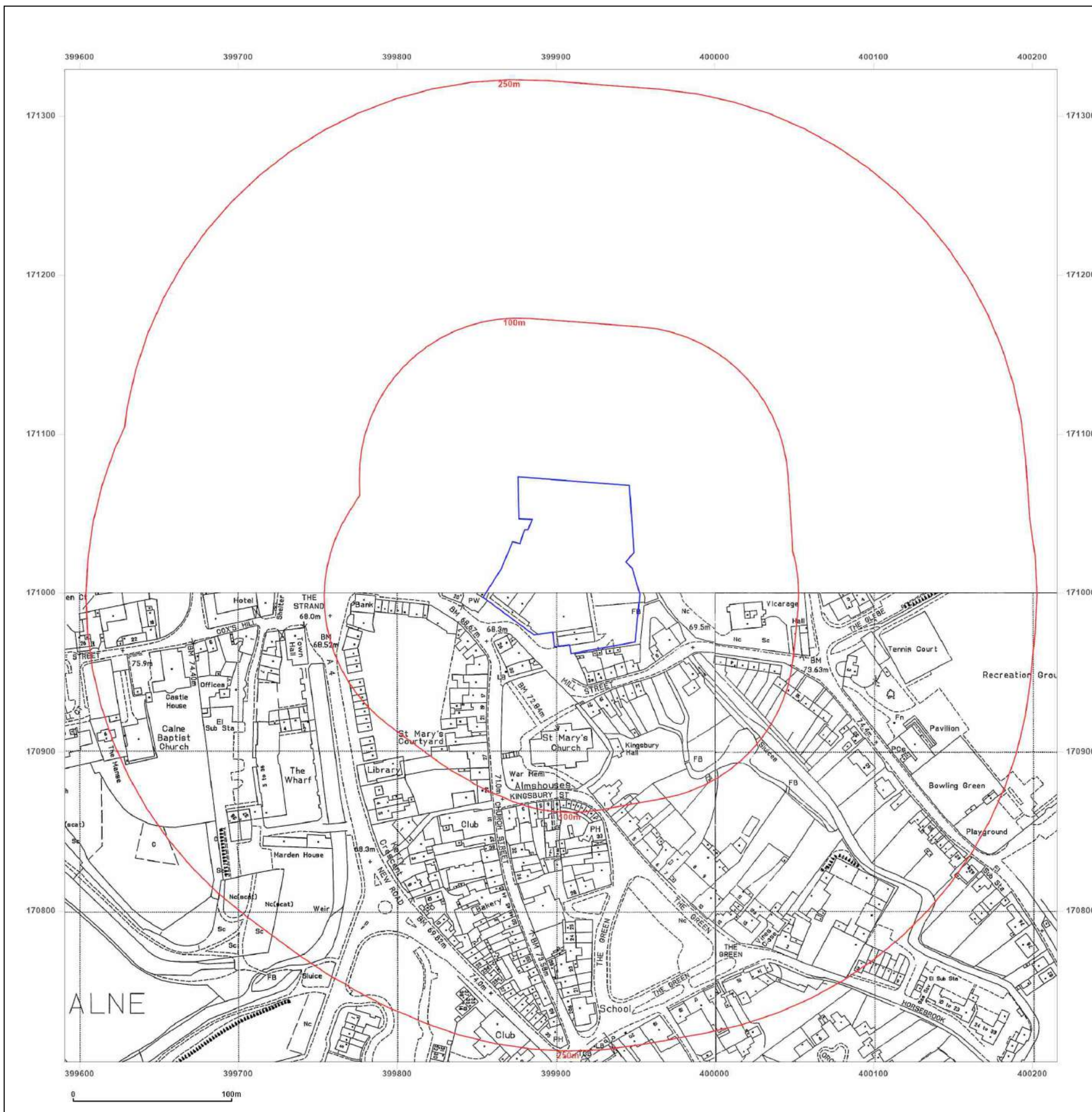


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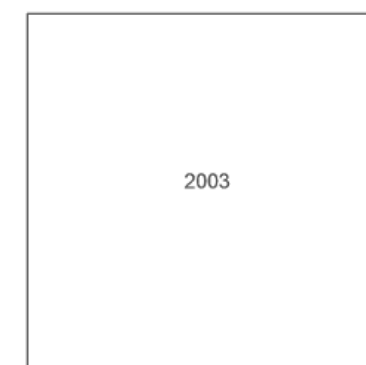
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Report Ref: GS-PZ5-DRN-W2W-RTF
Grid Ref: 399903, 171017

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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