Scottish and Southern Electricity Networks (SSEN)

KINTORE TO TEALING 400KV OHL – SECTION A

Geo-environmental Preliminary Risk Assessment

UK0040111.5101 /006
JULY 2025

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UK0040111.5101

PROJECT NO. UK0040111.5101

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EXECUTIVE SUMMARY

WSP UK Ltd (WSP) was commissioned by SSEN (the 'Client') to undertake a Phase 1 Geo-environmental Preliminary Risk Assessment (PRA) for Section A of the proposed Kintore to Tealing 400 kV Overhead Line (OHL) located between Tealing and Glamis (the 'Study Area').

The principal aim of this assessment has been to identify potential risks from soil and groundwater contamination that may affect the proposed development.

The report highlights environmental considerations, predominantly with respect to ground conditions, and was requested to support construction of Over Head Lines (OHL) at site

Study Findings

The Study Area is presently occupied by grass filled vacant land, major (A94 and A928) and minor unnamed roads have crossed the Study Area in several places.

Historical maps indicate that the majority of the Study Area has been undeveloped since the first available map edition (1858), with some localised historical industrial land uses on and near the Study Area.

The Study Area is underlain by Glaciofluvial superficial deposit overlying bedrock composed of sandstone, and mudstone formations. Made Ground is anticipated on Study Area due to the presence of major and minor roads. The bedrock aquifer is classified as a moderately productive aquifer.

Onsite surface water features include the Dean Water (across the northern section of the Study Area) and the Kerbet Water (flowing through the mid-northern part of the Study Area), both classified as having a 'Moderate' overall water quality by SEPA in 2023. Additionally, inland rivers such as Kilmundie Burn and Tealing Burn flow across the southern portion of the Study Area, though their classification status is not available according to SEPA 2023.

The preliminary risk assessment identifies a Low risk to human health, with the risk to the water environment considered Low. The risk to buildings and services is also considered to be Low.

Conclusions

The proposed presence of hardstanding reduces the probability of contemporary user exposures at a material frequency should contamination (e.g. heavy metals, TPH, PAH and asbestos) exist in these areas.

Based on the information contained within this report, it is the opinion of WSP that the Study Area represents a **LOW risk** with respect to contaminated land.

1 INTRODUCTION

1.1 AUTHORISATION

WSP UK Ltd (WSP) was commissioned by SSEN (the 'Client') to undertake a Phase 1 Geo-environmental Preliminary Risk Assessment (PRA) for Section A of the proposed Kintore to Tealing 400 kV Overhead Line (OHL) located between Tealing and Glamis (the 'Study Area').

The Study Area follows a linear corridor, extending from Balkemback in the southeast to an area near Nether Drumgley in the north west, crossing various geographical features, including woodlands, hills, burns (streams), and settlements.

1.2 PROJECT BACKGROUND & CONTEXT

WSP understands that the Study Area is a portion of the new Kintore-Tealing 400kV Overhead Line (OHL) connection (the 'proposed development'). The principal aim of this assessment is to assess potential geo-environmental risks associated with the proposed development and provide preliminary commentary on the ground related development constraints for the Study Area in the context of the proposed development.

The Study Area location and proposed development route are presented in Figure 1 and 2 within **Appendix A**.

1.3 SOURCES OF INFORMATION

This report has been prepared using the information sources as listed below:

- BGS geology viewer accessed on 24 February 2025, available online http://mapapps2.bgs.ac.uk/geoindex/home.html;
- Groundsure report reference GS-5MG-OLN-O4D-X16 and GS-2FK-UP7-L2J-1MM (historical maps) dated 24 February 2025 (presented as **Appendix B.1**);
- Mining Remediation Authority Map viewer accessed on 24 February 2025 through https://datamine-cauk.hub.arcgis.com/;
- UK Radon interactive map viewer accessed on 24 February 2025 http://www.ukradon.org/information/ukmaps;
- Online environmental data available on the Scotland Environment website access 24 February 2025 Map | Scotland's environment web ;
- Scottish Environment Protection Agency (SEPA) Water Environment Hub accessed on 24 February 2025 through Water Classification Hub (sepa.org.uk);
- Zetica UXO Assessment Risk Maps accessed on 24 February 2025 https://zeticauxo.com/downloads-and-resources/risk-maps/ (**Appendix B.2**);
- Legislative Background (**Appendix C**); and
- Contaminated Land Risk Assessment CIRIA 552 (Tables included in **Appendix D**).

1.4 LEGISLATIVE CONTEXT AND GUIDANCE

The assessment was undertaken in the legislative context of:

- Part 2A of The Environmental Protection Act (1990).
- National Planning Policy Framework (NPPF) (Chapter 9C).

The following good practice and statutory guidance was considered, and the assessment was undertaken in general accordance with:

- Environment Agency ‘Land Contamination Risk Management (LCRM)’, 2023.
- CIRIA ‘Assessing Risks Posed by Hazardous Ground Gases to Buildings’, C665 (2007).
- British Standard ‘Investigation of Potentially Contaminated Sites – Code of Practice’, BS EN 10175:2011 + A2: 2017.
- Defra ‘Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance’, PB13735 (2012).
- Scottish Government Planning Advice Note 33 (PAN 33).

1.5 LIMITATIONS

The report is addressed to and may be relied upon by SSEN, as “the Client” within the meaning given to that phrase within the agreement and subject to the terms and conditions contained therein.

This report has been completed with regard to generally accepted consulting practices and may not be relied upon by any other party without the explicit written agreement of WSP. No other third-party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.

Unless WSP has actual knowledge to the contrary, WSP has assumed the correctness and completeness of third-party information supplied and shall have no liability in respect of any inaccuracy, defect or omission in any information or materials provided, anecdotally or otherwise, by the Client or any other third party to WSP. WSP does not assume any liability for misrepresentation of information or for items not visible, accessible, present or supplied at the time of the study.

The general limitations to the nature of the assessment are outlined in **Appendix E**.

2 ENVIRONMENTAL SETTING

2.1 STUDY AREA DETAILS

Pertinent Study Area details are summarised in Table 2-1. Study Area location and proposed development plans are presented in Figures 1 and 2, included in **Appendix A**.

Table 2-1 – Study Area Details

Aspect	Details
Study Area address	Study Area centred at Milton of Ogilvie, Angus, Scotland, DD8 1UL
National Grid Reference	Easting:339968, Northing: 743166 (approximate Study Area centre)
Study Area Setting and Surrounding Area	The Study Area is located approximately 3.5km west of Forfar within a predominantly vacant grass filled area and is set within a predominantly rural / agricultural setting.
Study Area Size (approximate)	369 Hectares

2.2 STUDY AREA DESCRIPTION

The Study Area boundary follows a linear corridor extending from Balkemback in the southeast to an area near Nether Drumgley in the north, crossing various geographical features, including woodlands, hills, burns (streams), and settlement such as Dunian. Key water bodies across the route include Dean Water, Kerbet Water, and several smaller burns. The boundary intersects major roads such as the A928 and passes through rural farmland.

2.2.1 OFF-SITE

The Study Area is bound by agricultural fields to the north, south, east and west.

2.3 PUBLISHED GEOLOGY

The following geological sequence is anticipated on and in the vicinity of the Study Area based on British Geological Survey (BGS) 1:10,000 scale (Sheet NO34SE, NO33NE Solid and Drift edition) geological maps, 1:50,000 scale (Sheet 48E - Cupar, Sheet 56E-Kirriemuir, Sheet 57 Forfar and Montrose, Sheet 49 Arobath Solid and Drift Edition, 1:50:000) geological maps and the Groundsure report:

Table 2-2 – Summary of Published Geology

Geological Unit	Estimated Thickness (based on historical boreholes)	Location along the route	Description
Made Ground	Unknown	The Study Area is likely underlain by Made Ground where several roads cross the Study Area at various locations.	
Superficial deposit			
Glaciofluvial Deposits	Unknown	Mapping indicates this superficial deposit is present at the north-central to southern part of the Study Area (south of Douglastown and Kirkton extended till Kirkton of Tealing)	Sand and gravel, locally with lenses of silt, clay or organic material.
Lacustrine Deposits	Unknown	Mapping indicates the trace of this superficial deposit present in the south of the northern part of the Study Area (near to Douglastown and Kirkton and Hunters hill)	Laminated Clay and silt with organic material or sand.
Till, Devensian	Unknown	Mapping indicates the trace of this superficial deposit present at northern part of the Study Area (north of Douglastown and Kirkton and Hunters hill)	Diamicton: Till from Devensian period.
Bedrock			
Dundee Flagstone Formation	Unknown	The entire Study Area is underlain by this bedrock formation.	Medium- to coarse-grained, cross-bedded sandstones
Ochil Volcanic Formation Flagstone formation)	Unknown	This bedrock deposit occurring as intrusion in Dundee Flagstone Formation. And the map indicates the presence of it in southern part of the Study Area near Prieston.	Pyroxene andesite and olivine basalt lavas and rhyodacite, trachyandesite, hornblende andesite and volcaniclastic rocks.

Geological Unit	Estimated Thickness (based on historical boreholes)	Location along the route	Description
Central Scotland Late Carboniferous Tholeiitic Dyke Swarm (occurring as thin band)	Unknown	This bedrock deposit occurring as thin band in Dundee Flagstone Formation. And the map indicates the presence of it north of southern part of the Study Area near Lumleyden.	Igneous rocks, magmatic (intrusive) in origin. Poor in silica and form intruded batholiths, plutons, dykes and sills.

BGS Borehole Logs

No BGS borehole logs (BGS website: www.bgs.ac.uk/data/boreholescans) are recorded for the Study Area. (BGS website: www.bgs.ac.uk/data/boreholescans) and there are no borehole records held within 100m of the Study Area.

2.4 MINING

Reference to the Mining Remediation Authority (MRA) Interactive Map Viewer online indicated that the Study Area does not lie within a Coal Mining Reporting Area.

2.5 GROUNDWATER QUALITY

In accordance with the Water Framework Directive, the Scottish Environment Protection Agency (SEPA) maintains its quality classification of the water environment following River Basin Management Planning (RBMP). This information is available on SEPA's Water Environment Hub (https://www.sepa.org.uk/data-visualisation/water-classification-hub/). The following groundwater quality information is available for the Study Area:

Table 2-3 – Groundwater Quality Summary

Waterbody Name	Type	Local Authority	Overall Classification	Comments
Strathmore (ID: 150681)(map shows the extent of the Study Area from Nether Drumgley in north to Iron hillside in south)	Bedrock	Angus Council	Poor	2023 Classification
Sidlaw Hills (ID: 150601) (map shows the extent of this in southern part of the Study Area from Iron hillside to Balkemback)	Bedrock	Angus Council	Good	2023 Classification

Drinking Water Protection Zones are not defined in Scotland. Following SEPA's position, all Scotland's groundwater bodies are designated as Drinking Water Protected Areas (DWPAs) and therefore their associated groundwater resource potential must be protected.

2.6 GROUNDWATER VULNERABILITY

The BGS Groundwater Vulnerability Map of Scotland, scale 1:625,000 (1988) reports vulnerability in terms of the thickness of the overlying superficial deposits. Groundsure's digitised mapping of this reference reports the geological classifications of the Study Area as a moderately productive aquifer (Arbuthnott-Garvock Group), in which flow is virtually all through fractures and other discontinuities.

Additionally, SEPA's Water Environment Hub (https://map.environment.gov.scot/sewebmap/) also provides the following contemporary 'Aquifer Classification' for the bedrock aquifer.

Table 2-4 – Groundwater Vulnerability Summary

Rock Unit	Character	Flow Mechanism	Summary
Arbuthnott-Garvock Group	Moderately productive aquifer	Flow is virtually all through fractures and other discontinuities	Sandstones, in places flaggy, with siltstones, mudstones and conglomerates and interbedded lavas, locally yields small amounts of groundwater.

2.7 WATER ABSTRACTIONS

WSP contacted the Aberdeenshire Council and SEPA via email on 24th February 2025 regarding water abstraction records held relating to the Study Area. At the time of writing, no response has been received from the above-mentioned sources for the Study Area. Should any response be received, an updated report will be provided.

2.8 HYDROLOGY

According to the Groundsure report, there are inland rivers present on Study Area, and they are described as following:

- The Dean Water (ID: 6555) flowing across the northern section of the Study Area is classified to have an overall water quality of 'Moderate' in the year 2023 according to SEPA's Water Classification Hub.
- Kerbet Water (ID 6562) flowing across mid northern part of the Study Area is classified to have an overall water quality of 'Moderate' in the year 2023 according to SEPA's Water Classification Hub.
- The Kilmundie Burn (at central south where Study Area is interacting with A928 road) and Tealing Burn(at southern part of the Study Area near Balkemback wood) flow across the Study Area but the classification of their status is not available according SEPA.

2.9 FLOODING

According to the Groundsure Report, the majority of the Study Area is at negligible risk from river and surface water flooding. The northern most part of the Study Area (near Nether Drumgley) is identified as being at risk of flooding from river and surface water greater than 1.0m in a 1 in 30-year event.

The risk from the coastal flooding is considered to be negligible within the Study Area.

The risk of groundwater flooding is generally low across the majority of the Study Area, with the exception of the northern area near Nether Drumgley, and the central part of the Study Area (near Arnifoul to Ironside Hill Farm) where the risk is mapped as negligible.

2.10 SENSITIVE SURROUNDING LAND USES

The Groundsure report indicates that no environmentally designated sensitive land uses are recorded on Study Area; however, the following record of an environmental designation is identified within 500m of the Study Area boundary:

Table 2-5 – Sensitive Surrounding Land Uses

Type	Description
Special Areas of Conservation	One record present on Study Area is associated with River Tay and is described as clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels.
Designated Ancient Woodland	Calfward Wood, East Plantation/lera Wood, and unnamed wood located within 500m of Study Area.
Listed Buildings	Upper Hayston, Walled Garden, Balkemback, Nether Haysto, Douglastown House, Cottage Arniefoul, Nether Arniefoul located within 250m of Study Area
Scheduled Ancient Monuments	Balkemback Cottages located 500m west north west of centre of the Study Area. Nether Arniefoul located 150m north of the centre of the Study Area.

2.11 ENVIRONMENTAL SENSITIVITY

Overall, the Study Area setting is considered to be of moderate sensitivity, due to the following:

- Presence of ‘moderate’ quality surface water feature within 250m;
- Presence of a ‘moderately’ productive bedrock aquifer underlying the Study Area;
- Presence of residential land uses within 250m; and,
- Presence of designated ancient woodland adjacent to the Study Area.

3 STUDY AREA AND SURROUNDING AREA HISTORY

A review of historical Ordnance Survey (OS) maps has been undertaken to identify potential former sources of contamination and sensitive receptors. The historical OS maps reviewed are provided within the Groundsure report in **Appendix C.1,** and pertinent findings are summarised below.

3.1 ONSITE

3.1.1 ONSITE HISTORICAL MAPPING

The earliest available mapping (1865-1904) shows the Study Area to be mostly undeveloped land with few roads intersecting the Study Area.

- Tealing road had been identified running across the southern part of the Study Area near Balkemback (1858) remains unchanged according to the latest map.
- An unnamed road had been identified running across the Study Area connecting Craigowl hill with hillside of Prieston (2001) remains unchanged according to the latest map.
- A928 road had been identified running across the central southern part of the Study Area near Finlarg hill (1858) remains unchanged according to the latest map.
- Balkemback Wood was identified in the southern part of the Study Area in 1861. Since 2001, it has been replaced by the Dunian as recorded on the latest map.

3.1.2 ONSITE REGULATORY INFORMATION

A review of the Groundsure report for the Study Area has reported the following potentially contaminative land uses (some of which are not identified on historical mapping):

- Old Gravel Pit located onsite circa 1900,
- Butts located onsite circa 1974 – 1982,
- Unspecified Old Quarries and unspecified quarry located onsite circa 1861-1955,
- Unspecified Disused Quarries located onsite circa 1974 – 1982.

3.2 OFFSITE

3.2.1 OFF-SITE HISTORICAL MAPPING

Off site features identified are listed below with their distance located from the site:

- An unspecified old quarry was identified located southern part of the site near Ironside Hil farm (1858).
- Some unspecified queries had been identified located near Lumley Dean (1926);
- Some unspecified queries had been identified located near Kincaldrum hill (1926.

3.2.2 OFF-SITE REGULATORY INFORMATION

- Old clay pits:

- 280m north (circa 1901 – 1955).
- 291m north (circa 1901 – 1955).

- Multiple Smithies located:

- 358m north (circa 1860 – 1926).
- 393m south (circa 1860 – 1926).
- 459m north (circa 1860 – 1926).
- 478m southwest (circa 1860 – 1926).
- 490m southwest (circa 1860 – 1926).

- Industrial and structural features include:

- Chimney, 150m south (circa 1969).
- Brick and tile works, 161m north (circa 1901).
- Spinning mill, 235m north (circa 1861).

- Additional land uses:

- Rifle range, 151m northeast (circa 1955).
- Television station, 221m south (circa 1974).
- Butts 214m northeast (circa 1974 – 1982).

- Tanks:

- Tank or trough located 52m south to the centre of the Study Area (circa. 1858).
- Unspecified tank located 71m south to the centre of the Study Area (circa.1969).

4 REGULATORY INFORMATION

4.1 GROUNDSURE REGULATORY INFORMATION SUMMARY

Table 4-1 – Regulatory Information Summary

Groundsure Feature	On-site	0-50m	50-250m	250-500m	Details
*Historical Industrial Land Uses	12	6	28	44	See Section 3
Historical Tanks	0	0	2	0	See Section 3
Historical Energy Features	0	0	0	0	N/A
Historical Petrol Stations	0	0	0	0	N/A
Historical Garages	0	0	0	0	N/A
Active or Recent Landfill	0	0	0	0	N/A
Historical Landfill Sites	0	0	0	0	N/A
Licenced Waste Sites	0	0	0	0	N/A
Historical Waste Sites	0	0	0	0	N/A
Recent Industrial Land Uses	2	0	24	-	A pylon is located onsite, with additional pylons positioned 76m (near Balkemback wood, 214m (near Balkemback), 247m (west of Dunian), and 250m south (near Tealing hill) of the Study Area's centre. A disused quarry is present onsite(northeast of Arniefoul), along with others situated 66m(near Finlarg Hill) 119m south(near Ironside hill), and 172m north (central part of Study Area, near northeast of Arniefoul) and 240m north(near upper Hayston) of the Study Area's centre. A storage tank is positioned 73m south of the Study Area's

Groundsure Feature	On-site	0-50m	50-250m	250-500m	Details
					centre(near Iron side Hill). An electricity substation is located 106m south of the Study Area's centre(near Prieston Hill). Wind turbines are located 62m, 116m, and 168m south of the Study Area's centre (southern part of the Study Area near south of Balkemback). The Balkemback Farm Turbines are positioned 115m (Turbine 1) and 168m (Turbine 2) south of the Study Area's centre (near Balkemback). A wind farm is present 149m south of the Study Area's centre(near south of Balkemback). A silo, associated with agricultural activity, is situated 151m south of the Study Area's centre(near Kinkorton of Tealing). Pumps are positioned 183m and 209m north of the Study Area's centre (north of Central part of the Study Area near southwest of Dougalstown and west of Hayston Hill respectively. A television station is located 220m south of the Study Area's centre (near Tealing Hill). **A mast is situated 243m south of the Study Area's centre(near ironside Hill).**

Groundsure Feature	On-site	0-50m	50-250m	250-500m	Details
Current or Recent Petrol Stations	0	0	0	0	N/A
Control of Major Accident Hazards (COMAH)	0	0	0	0	N/A
Hazardous Substances Storage/Use	0	0	0	0	N/A
Part A(1), IPPC and Historic IPC Authorisations	0	0	0	0	N/A
Pollution Inventory Substances	0	0	0	0	N/A
Pollution Inventory Waste Transfers	0	0	0	0	N/A
Part B Authorisations	0	0	0	0	N/A

The distance for all the features has been calculated from the approximate centre of the Study Area at co-ordinates (374954, 779542)
***Note:** The features listed in the table above have been derived from the data provided in the Groundsure Report and may not be shown on provided historical mapping.*

4.2 RADON GAS

Based on the Groundsure report and UK Radon interactive map (https://www.ukradon.org/information/ukmaps) the site whole lies within a low probability radon area where less than 1% of homes are estimated to be at or above the Action level. Given the proposed land use, no radon protection measures are considered necessary for the Study Area.

4.3 UNEXPLODED ORDNANCE

Zetica Risk Maps indicate that the Study Area is located in an area of low risk in regard to unexploded ordnance (**Appendix B**).

The UXO Risk Map for the Study Area is included in **Appendix B.2.**

4.4 RADIUM

A review of available records for Radium was undertaken and this indicated the Study Area does not pass through SEPA's 1km search area for Radioactive substances. The risks associated with Radium are therefore considered low.

5 INITIAL CONCEPTUAL SITE MODEL

5.1 INTRODUCTION

This section of the report presents the characteristics of the Study Area and provides a systematic indication of the risks to enable uncertainties and further assessment needs or other actions to be identified. It draws on the information presented in earlier sections of the report to identify plausible contaminant-pathway-receptor contaminant linkages. Details regarding the legislative framework for this assessment are presented within **Appendix C**.

5.2 POTENTIAL SOURCES

Based on information (as presented in section 3 and section 4.1) reviewed as part of this desk study and findings of the Study Area inspection, the following potential sources of contamination have been identified:

Onsite

- Contamination resulting from current and historical land use. (Made Ground, smithies. historical tanks, industrial features, brick and tile works etc)
- Ground gases (Made Ground, superficial deposits, infilled quarry, clay pits, Butts).

Offsite

- Made Ground associated with development adjacent to the Study Area.
- Stockpiles of topsoil / Made Ground located adjacent to Study Area boundary.
- Contamination associated with offsite historical land uses.

Based on the above potential sources, the following contaminants may be present within the Study Area:

- Heavy metals, polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), chlorinated solvents, pesticides, nitrates, phosphates, sulphates, sulphides, cyanides, and asbestos
- Ground gases associated with Made Ground, including methane, carbon dioxide, carbon monoxide, hydrogen sulphide, and oxygen-deficient air, as well as potential landfill gases and radon.

5.3 POTENTIAL RECEPTORS

In the context of the proposed redevelopment, the following potential receptors were identified:

Human Health

- Future and current site occupiers/visitors (maintenance workers);
- Adjacent site users;
- Construction workers and below ground maintenance workers.

Water Environment

- Bedrock aquifer (Arbuthnott-Garvock Group)
- Surface water (The Dean Water, Kerbet Water, Kilmundie Burn, Tealing Burn)

Property

- Foundations and below ground structures.

5.4 POTENTIAL CONTAMINANT PATHWAYS

Relevant potential pathways are considered to include:

- Direct contact, ingestion or inhalation of soil-bound contaminants / dust;
- Direct inhalation of asbestos fibres within soils;
- Inhalation of vapours associated with soil / groundwater contamination.
- Migration of leachable/mobile contamination laterally and vertically through granular soils;
- Ground gas migration, inhalation and accumulation.

5.5 PLAUSIBLE CONTAMINANT LINKAGES

Table 5-1 provides an evaluation of those potential contaminant linkages considered to be plausible given our current Study Area understanding.

Table 5-1 – Plausible Contaminant Linkages

Potential Source	Exposure Pathway	Receptor	Probability of Exposure	Consequence of Exposure	Risk	Plausibility of Pathway
Contaminants associated with adjacent land uses Contaminants include inorganic and organic contaminants, ground gases, and asbestos.	Inhalation, ingestion and dermal contact	Human health risks, including current and future site users, groundworkers	Unlikely	Medium	**Low**	Site users may be exposed to potential contaminants via direct dermal contact, ingestion and inhalation, or hazardous ground gases. As no enclosed spaces are included in the proposed development, the risk from ground gases is considered low. The principal human health risk is likely to be from contaminants within the soils and groundwater due to potentially contaminated Made Ground. Significant Made Ground is not expected to be encountered on most of the Study Area due to the lack of historical development, although it is noted that some historical industrial development has occurred on certain parts of the Study Area and the surrounding area. In the event of below ground works, site workers may be exposed to subsurface contamination should it exist. Yet it is generally accepted as both reasonable and an expectation that future construction workers would adopt appropriate procedures to manage health and safety risks on the assumption that a risk exists.
	Migration via infiltration into groundwater	Groundwater within superficial and bedrock deposits Surface water	Low likelihood	Mild	**Low**	The presence of hardstanding would be limited to the overhead line (OHL) tower bases which should impede the infiltration of precipitation to some degree and reduce the potential for leaching and off-site migration of any contamination. Given the current / historical use of the Study Area, the potential for legacy contaminants to migrates to the underlying bedrock aquifer is considered to be low.

Potential Source	Exposure Pathway	Receptor	Probability of Exposure	Consequence of Exposure	Risk	Plausibility of Pathway
		Building and site foundations	Unlikely	Medium	**Low**	Aggressive ground conditions may affect any proposed building foundations and underground pipes. With any new development, planning would be required, and such would require a site investigation, which would need to assess whether any mitigation was required.

5.6 PRELIMINARY CONTAMINANT LINKAGE ASSESSMENT

Based on consideration of the Study Area conditions, the environmental setting of the Study Area and the level of information currently available for the Study Area, potential plausible contaminant linkages have been identified. These are based on an assumed proposed industrial end use.

The terms describing Probability and Consequence are referenced from the CIRIA 552 document. Tables 6.3, 6.4 and 6.5 from CIRIA 552 are provided for reference in **Appendix D**.

5.7 PRELIMINARY RISK CLASSIFICATION FOR THE STUDY AREA

Based on the contaminant linkage assessment completed for the Study Area in consideration of its proposed use, the following risk classifications have been determined:

- With respect to human health, the risks have been assessed as **Low**;
- With respect to surface waters, the risks from the Study Area have been assessed as **Low**
- With respect to groundwater, the risks from the Study Area have been assessed as **Low**;
- With respect to buildings and services, the Study Area is classified as **Low**;

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

The potential for legacy ground contamination in shallow soils is considered possible based on historical onsite and of offsite uses.

The principal risks are considered to be to the current and future site users. However, the presence of hardstanding (tower bases) reduces the probability of contemporary user exposures at a material frequency should such contamination exist in these areas.

Based on the information contained within this report, it is the opinion of WSP that the Study Area represents a **Low risk** with respect to contaminated land liabilities.

6.2 RECOMMENDATIONS

Based on the above, an intrusive ground investigation is recommended to confirm the anticipated ground conditions and enable further assessment of the above constraints.

The ground investigation should be undertaken in accordance with BS5930 and BS10175 and should be designed and scoped to provide further understanding / confirmation of the following:

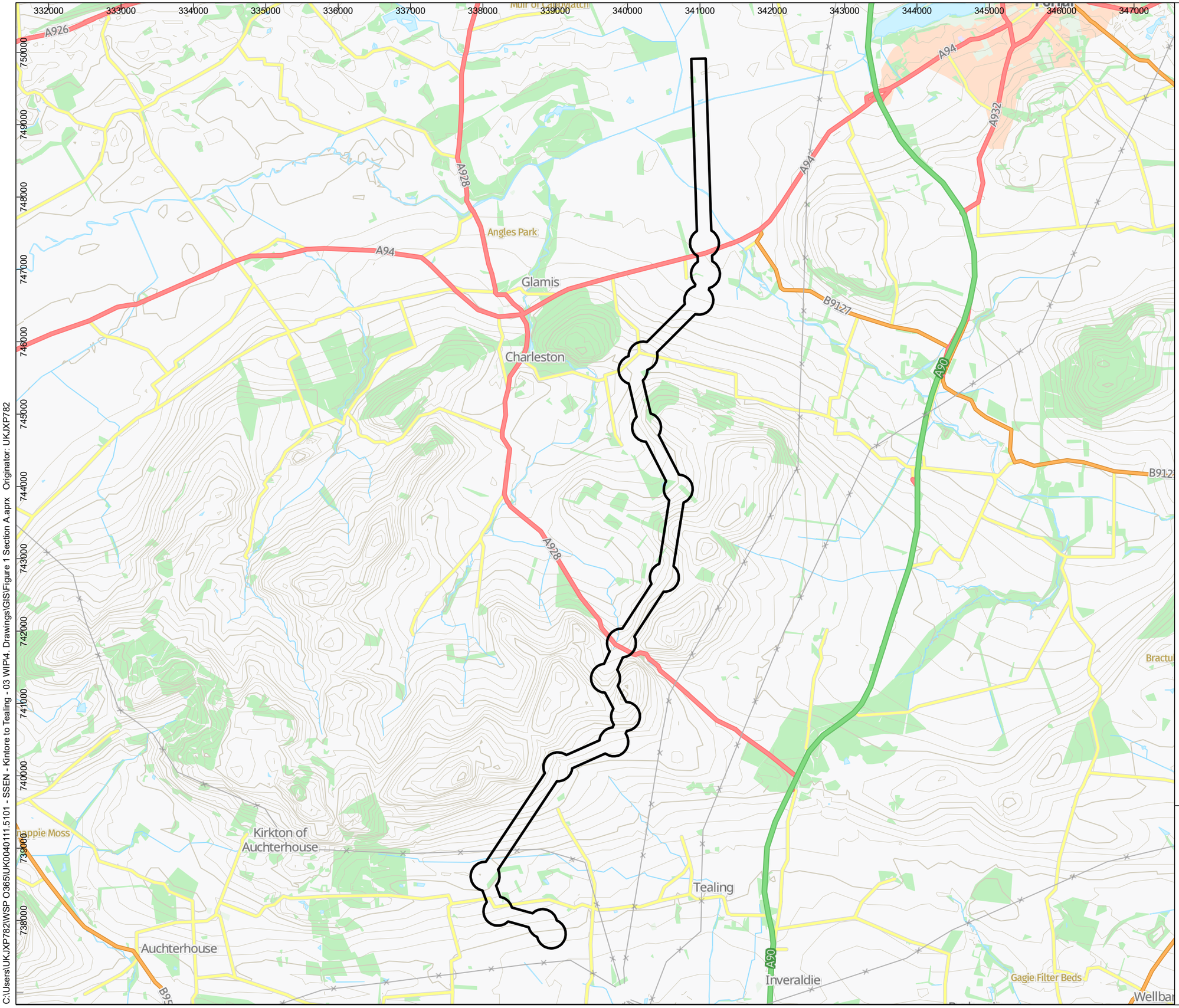
- Extent and characteristics of contamination on soils and groundwater; and
- Risks to future site users and the wider environment.

Should the Study Area use change then the contents of this report should be revisited in ensuring that the land is made suitable for any new use.

Please note: this summary forms part of WSP's Phase I Geoenvironmental Preliminary Risk Assessment (ref.: UK0040111.5101 /006). Under no circumstances is it to be used as an independent document.

Appendix A

FIGURES



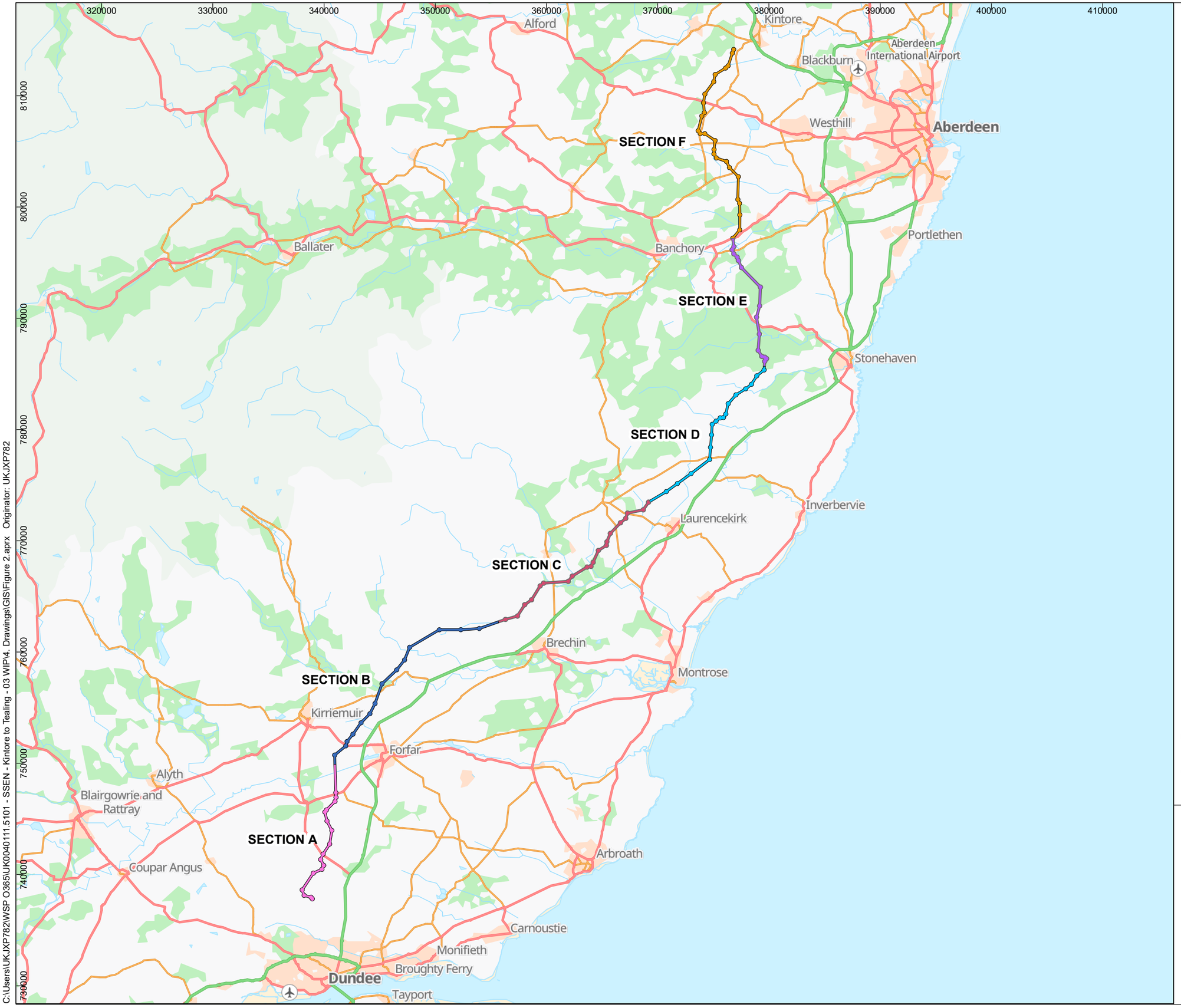
C:\Users\UKJXP782\WSP O365\UK0040111.5101 - SSEN - Kintore to Tealing - 03 WIP\4. Drawings\GIS\Figure 1 Section A.aprx Originator: UKJXP782

Kintore-Tealing 400kV Overhead Line (OHL) Connection

Figure 1
Site location plan

February 2025

Figure 1 Section A.aprx



Key

- Section F
- Section E
- Section D
- Section C
- Section B
- Section A

0 5 10 15 20km

Scale at A3: 1:325,000

GB Cartographic: Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

Kintore-Tealing 400kV Overhead Line (OHL) Connection

Figure 2
Proposed development plan

February 2025

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Figure 2.aprx

Appendix B

ADDITIONAL INFORMATION

Appendix B.1

GROUNDSURE REPORT

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

Section A

Order Details

Date: 04/09/2025

Your ref: P110439UK001

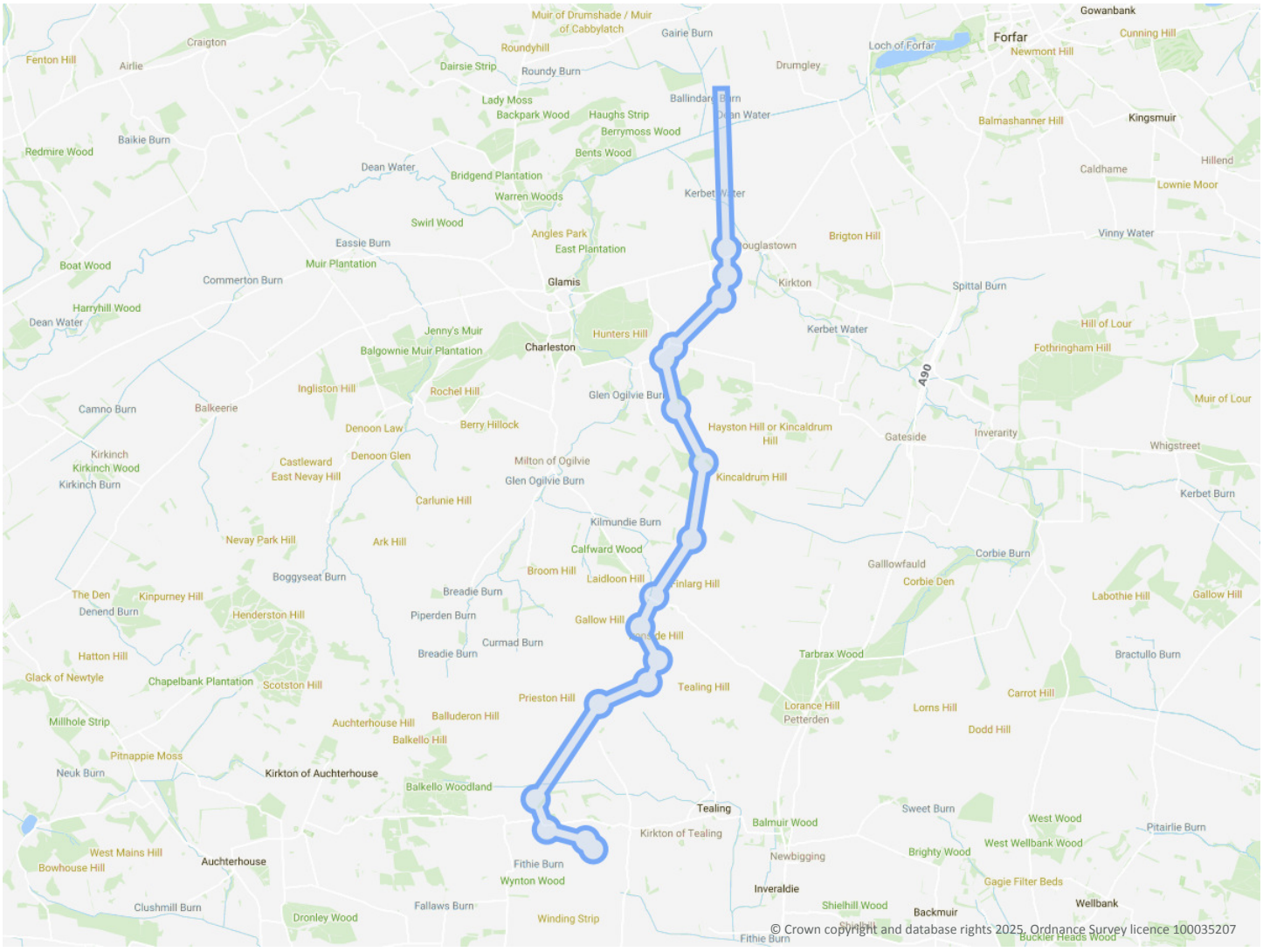
Our Ref: WSP-LLM-JAE-HLC-29J

Site Details

Location: 339968 743166

Area: 369.76 ha

Authority: Angus Council ↗



Summary of findings p. 2 >

Aerial image p. 7 >

OS MasterMap site plan N/A: >10ha

Insight User Guide ↗

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

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
12 >	1.1 >	Historical industrial land uses >	12	6	28	44	-
16 >	1.2 >	Historical tanks >	0	0	2	0	-
16	1.3	Historical energy features	0	0	0	0	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	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
18 >	2.1 >	Historical industrial land uses >	16	7	42	61	-
23 >	2.2 >	Historical tanks >	0	0	3	0	-
24	2.3	Historical energy features	0	0	0	0	-
24	2.4	Historical petrol stations	0	0	0	0	-
24	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
25	3.1	Active or recent landfill	0	0	0	0	-
25	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25	3.4	Licensed waste sites	0	0	0	0	-
25	3.5	Historical waste sites	0	0	0	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	4.1 >	Recent industrial land uses >	2	0	23	-	-
28 >	4.2 >	National Geographic Database (NGD) - Current or recent tanks >	0	0	2	-	-
28	4.3	Current or recent petrol stations	0	0	0	0	-
28	4.4	Electricity cables	0	0	0	0	-
29 >	4.5 >	Gas pipelines >	1	0	0	0	-
29	4.6	Sites determined as Contaminated Land	0	0	0	0	-
29	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-

29	4.8	Regulated explosive sites	0	0	0	0	-
30	4.9	Hazardous substance storage/usage	0	0	0	0	-
30	4.10	Part A(1), IPPC and Historic IPC Authorisations	0	0	0	0	-
30	4.11	Part B Authorisations	0	0	0	0	-
30	4.12	Pollution inventory substances	0	0	0	0	-
30	4.13	Pollution inventory waste transfers	0	0	0	0	-
31	4.14	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
32 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
33 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
35 >	**6.1 >**	**Water Network (OS MasterMap) >**	69	17	107	-	-
50 >	**6.2 >**	**Surface water features >**	1	11	57	-	-
Page	Section	**River flooding >**					
52 >	**7.1 >**	**River flooding >**	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Coastal flooding					
54	8.1	Coastal flooding	Negligible (within 50m)				
Page	Section	**Surface water flooding >**					
55 >	**9.1 >**	**Surface water flooding >**	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	**Groundwater flooding >**					
57 >	**10.1 >**	**Groundwater flooding >**	Low (within 50m)				
Page	Section	**Environmental designations >**	On site	0-50m	50-250m	250-500m	500-2000m
58	11.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
59	11.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
59 >	**11.3 >**	**Special Areas of Conservation (SAC) >**	1	0	0	0	1
59	11.4	Special Protection Areas (SPA)	0	0	0	0	0
60	11.5	National Nature Reserves (NNR)	0	0	0	0	0
60	11.6	Local Nature Reserves (LNR)	0	0	0	0	0
60 >	**11.7 >**	**Designated Ancient Woodland >**	1	1	3	5	16

61	11.8	Biosphere Reserves	0	0	0	0	0
62	11.9	Forest Parks	0	0	0	0	0
62	11.10	Marine Conservation Zones	0	0	0	0	0
Page	Section	**Visual and cultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
63	12.1	World Heritage Sites	0	0	0	-	-
64	12.2	Area of Outstanding Natural Beauty	0	0	0	-	-
64	12.3	National Parks	0	0	0	-	-
64 >	**12.4 >**	**Listed Buildings >**	0	0	11	-	-
65	12.5	Conservation Areas	0	0	0	-	-
65 >	**12.6 >**	**Scheduled Ancient Monuments >**	1	0	1	-	-
66	12.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
67 >	**13.1 >**	**Agricultural Land Classification >**	Grade 6.3 (within 250m)				
Page	Section	**Geology 1:10,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
69 >	**14.1 >**	**10k Availability >**	Identified (within 500m)				
70	14.2	Artificial and made ground (10k)	0	0	0	0	-
71 >	**14.3 >**	**Superficial geology (10k) >**	5	2	1	2	-
72	14.4	Landslip (10k)	0	0	0	0	-
73 >	**14.5 >**	**Bedrock geology (10k) >**	9	1	3	2	-
74 >	**14.6 >**	**Bedrock faults and other linear features (10k) >**	7	1	2	2	-
Page	Section	**Geology 1:50,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
76 >	**15.1 >**	**50k Availability >**	Identified (within 500m)				
78	15.2	Artificial and made ground (50k)	0	0	0	0	-
78	15.3	Artificial ground permeability (50k)	0	0	-	-	-
79 >	**15.4 >**	**Superficial geology (50k) >**	15	0	5	5	-
81 >	**15.5 >**	**Superficial permeability (50k) >**	Identified (within 50m)				
81	15.6	Landslip (50k)	0	0	0	0	-
81	15.7	Landslip permeability (50k)	None (within 50m)				
83 >	**15.8 >**	**Bedrock geology (50k) >**	11	3	2	4	-

85 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
85 >	15.10 >	Bedrock faults and other linear features (50k) >	7	0	2	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
87	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
88 >	17.1 >	Shrink swell clays >	Low (within 50m)				
90 >	17.2 >	Running sands >	Low (within 50m)				
92 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
94 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
95 >	17.5 >	Landslides >	Very low (within 50m)				
96 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
98 >	18.1 >	BritPits >	3	1	7	12	-
104 >	18.2 >	Surface ground workings >	19	7	35	-	-
107	18.3	Underground workings	0	0	0	0	0
107	18.4	Underground mining extents	0	0	0	0	-
107	18.5	Historical Mineral Planning Areas	0	0	0	0	-
107 >	18.6 >	Non-coal mining >	6	0	2	1	2
109	18.7	JPB mining areas	None (within 0m)				
109	18.8	The Coal Authority non-coal mining	0	0	0	0	-
109	18.9	Researched mining	0	0	0	0	-
110	18.10	Mining record office plans	0	0	0	0	-
110	18.11	BGS mine plans	0	0	0	0	-
110	18.12	Coal mining	None (within 0m)				
110	18.13	Brine areas	None (within 0m)				
110	18.14	Gypsum areas	None (within 0m)				
111	18.15	Tin mining	None (within 0m)				
111	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m

112	19.1	Natural cavities	0	0	0	0	-
112	19.2	Mining cavities	0	0	0	0	0
112	19.3	Reported recent incidents	0	0	0	0	-
112	19.4	Historical incidents	0	0	0	0	-
Page	Section	**Radon** >					
114 >	**20.1** >	**Radon** >	Less than 1% (within 0m)				
Page	Section	**Soil chemistry** >	On site	0-50m	50-250m	250-500m	500-2000m
116 >	**21.1** >	**BGS Estimated Background Soil Chemistry** >	176	32	-	-	-
124	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
124	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
125	22.1	Underground railways (London)	0	0	0	-	-
125	22.2	Underground railways (Non-London)	0	0	0	-	-
125	22.3	Railway tunnels	0	0	0	-	-
125	22.4	Historical railway and tunnel features	0	0	0	-	-
125	22.5	Royal Mail tunnels	0	0	0	-	-
126	22.6	Historical railways	0	0	0	-	-
126	22.7	Railways	0	0	0	-	-
126	22.8	Crossrail 2	0	0	0	0	-
126	22.9	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 30/05/2023

Site Area: 369.76ha

Recent site history - 2020 aerial photograph

Capture Date: 24/04/2020

Site Area: 369.76ha

Recent site history - 2015 aerial photograph

Capture Date: 01/10/2015

Site Area: 369.76ha

Recent site history - 2010 aerial photograph

Capture Date: 12/04/2010

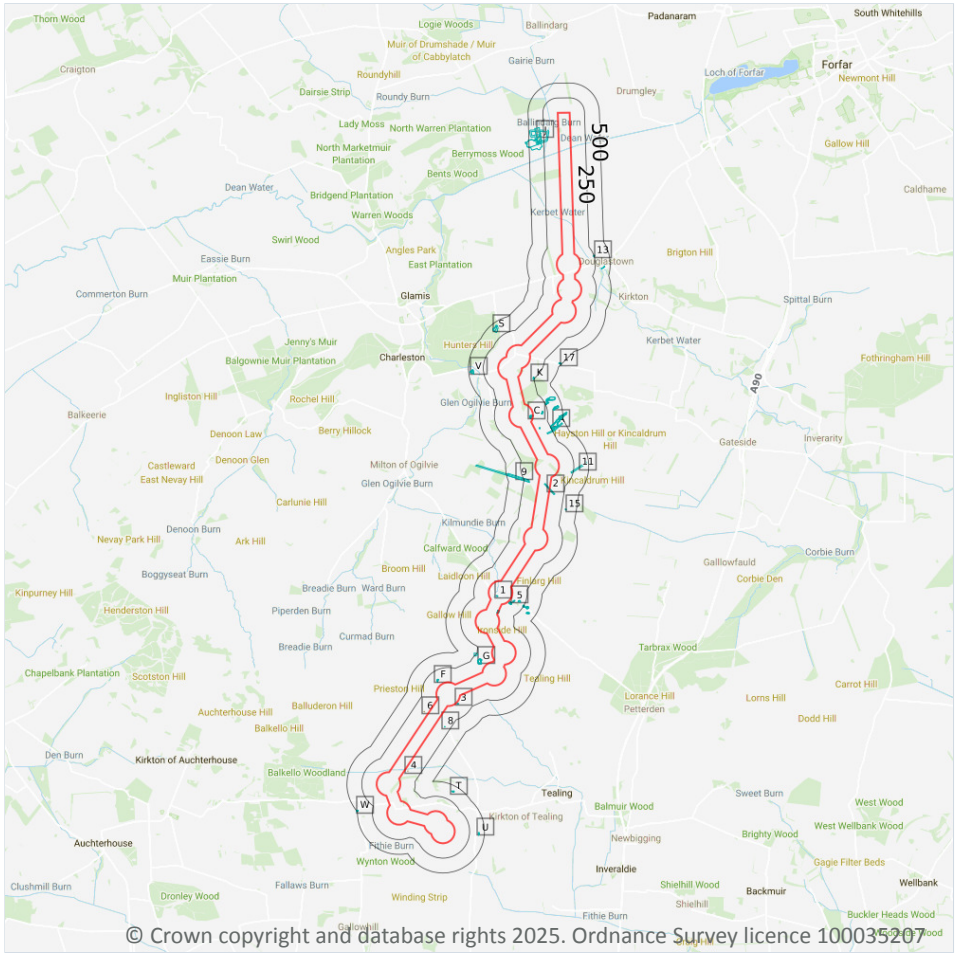
Site Area: 369.76ha

Recent site history - 2000 aerial photograph

Capture Date: 13/05/2000

Site Area: 369.76ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m	90

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 12 >**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Old Gravel Pit**	**1900**	**471964**

ID	Location	Land use	Dates present	Group ID
2	**On site**	**Butts**	**1974 - 1982**	**494715**
A	**On site**	**Unspecified Old Quarry**	**1926**	**471933**
A	**On site**	**Unspecified Old Quarries**	**1901**	**471934**
B	**On site**	**Unspecified Quarry**	**1861**	**472474**
B	**On site**	**Unspecified Old Quarry**	**1900 - 1926**	**495515**
B	**On site**	**Unspecified Old Quarry**	**1955**	**500823**
C	**On site**	**Unspecified Quarry**	**1861**	**472719**
C	**On site**	**Unspecified Old Quarries**	**1955**	**481646**
C	**On site**	**Unspecified Old Quarries**	**1955**	**481647**
C	**On site**	**Unspecified Disused Quarries**	**1974 - 1982**	**494412**
C	**On site**	**Unspecified Disused Quarries**	**1974 - 1982**	**499416**
3	14m SE	Unspecified Ground Workings	1861	481104
D	19m SE	Unspecified Quarry	1926	485203
D	23m SE	Unspecified Old Quarries	1955	481603
D	28m SE	Unspecified Quarry	1861	490617
D	30m SE	Unspecified Disused Quarry	1974 - 1982	498328
D	31m SE	Unspecified Quarry	1900	489368
5	54m SE	Unspecified Old Quarries	1926 - 1955	496080
E	71m NE	Unspecified Quarry	1955	472715
F	72m NW	Unspecified Pit	1861	486682
E	73m NE	Unspecified Old Quarries	1901 - 1926	492987
G	74m NW	Unspecified Old Quarry	1955	500063
G	75m NW	Unspecified Old Quarry	1900 - 1926	484811
G	81m NW	Unspecified Quarry	1861	472475
G	82m NW	Unspecified Disused Quarry	1974	474851
F	86m NW	Unspecified Pit	1900 - 1926	485604
7	134m SE	Unspecified Old Quarries	1926 - 1955	485335
H	143m E	Unspecified Old Quarries	1901 - 1926	486097

ID	Location	Land use	Dates present	Group ID
H	143m E	Unspecified Old Quarries	1955	487977
8	150m SE	Chimney	1969	482220
9	151m W	Rifle Range	1955	496230
I	153m NE	Butts	1974 - 1982	500854
H	159m E	Unspecified Disused Quarries	1974 - 1982	490513
J	161m W	Brick and Tile Works	1901	479562
10	163m W	Rifle Range	1901 - 1926	485054
J	186m W	Unspecified Commercial/Industrial	1927	472910
11	214m E	Butts	1974 - 1982	493200
12	221m NW	Television Station	1974	475254
K	221m E	Unspecified Old Quarry	1926 - 1955	492594
K	222m E	Unspecified Disused Quarry	1974	474976
L	234m SE	Unspecified Quarry	1955	491690
13	235m E	Spinning Mill	1861	479384
L	236m SE	Unspecified Disused Quarry	1974 - 1982	501064
L	243m SE	Unspecified Quarry	1900 - 1926	488313
A	246m NE	Unspecified Disused Quarry	1974 - 1982	488291
M	253m NE	Unspecified Old Quarries	1901 - 1926	490235
A	253m NE	Unspecified Quarry	1861	472721
I	253m NE	Unspecified Heap	1901 - 1926	490238
A	254m NE	Unspecified Old Quarry	1955	476651
I	256m NE	Unspecified Heap	1861	501110
M	256m NE	Unspecified Old Quarries	1955	486591
M	256m NE	Unspecified Quarry	1861	472717
M	265m NE	Unspecified Disused Quarries	1974	479672
N	280m W	Clay Pit	1927 - 1955	496837
O	282m W	Old Clay Pit	1955	489328
P	282m NE	Unspecified Disused Quarries	1974	479671

ID	Location	Land use	Dates present	Group ID
P	287m NE	Unspecified Quarry	1861	472716
O	288m W	Unspecified Disused Pit	1974	479520
P	291m NE	Unspecified Old Quarries	1901 - 1926	486194
P	291m NE	Unspecified Old Quarries	1955	489302
O	291m W	Old Clay Pit	1901 - 1927	500471
L	300m SE	Unspecified Old Quarry	1955	490850
L	301m SE	Unspecified Quarry	1861	472526
L	301m SE	Unspecified Old Quarry	1900 - 1926	494560
14	303m W	Tile Works	1861	483416
15	312m E	Unspecified Quarry	1861	472720
N	326m W	Clay Pit	1901	484644
Q	350m SE	Unspecified Old Quarry	1926 - 1955	493487
R	351m E	Unspecified Disused Quarry	1974 - 1982	502553
R	352m E	Unspecified Old Quarries	1901	481648
R	352m E	Unspecified Old Quarry	1926 - 1955	489813
S	353m NW	Unspecified Old Quarry	1901 - 1926	487003
R	355m E	Unspecified Quarry	1861	472718
16	358m E	Smithy	1901	480701
Q	358m SE	Unspecified Quarry	1900	472525
Q	360m SE	Unspecified Disused Quarry	1974 - 1982	486744
S	390m NW	Unspecified Old Quarry	1955	488342
T	393m NE	Refuse Heap	1865	475431
U	395m E	Unspecified Old Quarry	1900 - 1923	499919
T	396m NE	Gravel Pit	1858	484050
U	400m E	Unspecified Old Quarry	1955	484744
U	400m E	Unspecified Quarry	1858 - 1865	487162
V	417m W	Unspecified Mill	1955	497647
V	417m W	Unspecified Mill	1861	488541

ID	Location	Land use	Dates present	Group ID
V	421m W	Unspecified Mill	1901 - 1926	499661
17	456m SE	Smithy	1861 - 1901	500431
W	478m SW	Smithy	1900 - 1926	499828
W	478m SW	Smithy	1955	501238
W	490m SW	Smithy	1860	501809

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**2**

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

Features are displayed on the Past land use map on **page 12 >**

ID	Location	Land use	Dates present	Group ID
4	52m SE	Tank or Trough	1858	65689
6	71m NW	Unspecified Tank	1969	64629

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**0**

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'.

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 un-grouped 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	0

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

This data is sourced from Ordnance Survey / Groundsure.

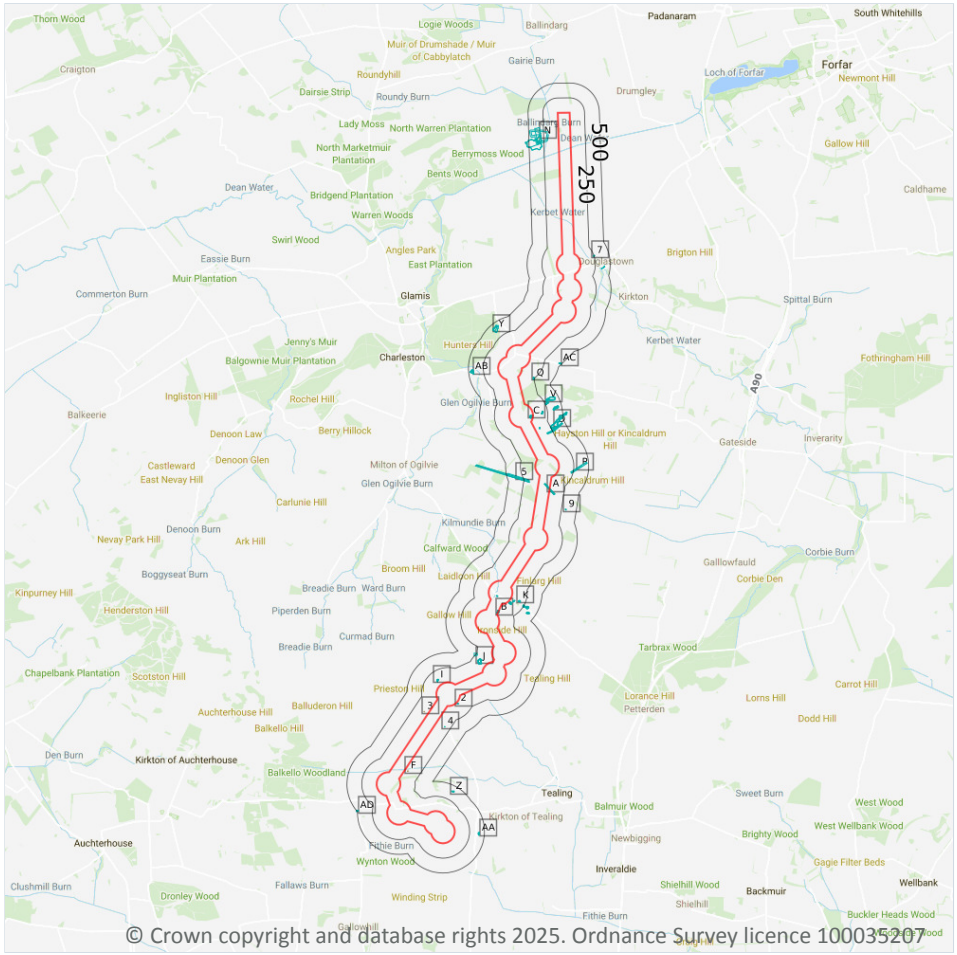
1.6 Historical military land

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



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

2.1 Historical industrial land uses

Records within 500m	126

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 18 >**

ID	Location	Land Use	Date	Group ID
1	On site	Old Gravel Pit	1900	471964
A	On site	Butts	1974	494715
A	On site	Butts	1982	494715

ID	Location	Land Use	Date	Group ID
B	**On site**	**Unspecified Old Quarry**	**1955**	**500823**
B	**On site**	**Unspecified Old Quarry**	**1926**	**495515**
B	**On site**	**Unspecified Old Quarry**	**1900**	**495515**
B	**On site**	**Unspecified Quarry**	**1861**	**472474**
C	**On site**	**Unspecified Old Quarries**	**1955**	**481646**
C	**On site**	**Unspecified Old Quarries**	**1955**	**481647**
C	**On site**	**Unspecified Disused Quarries**	**1974**	**494412**
C	**On site**	**Unspecified Disused Quarries**	**1974**	**499416**
C	**On site**	**Unspecified Disused Quarries**	**1982**	**494412**
C	**On site**	**Unspecified Disused Quarries**	**1982**	**499416**
C	**On site**	**Unspecified Quarry**	**1861**	**472719**
D	**On site**	**Unspecified Old Quarry**	**1926**	**471933**
D	**On site**	**Unspecified Old Quarries**	**1901**	**471934**
2	14m SE	Unspecified Ground Workings	1861	481104
E	19m SE	Unspecified Quarry	1926	485203
E	23m SE	Unspecified Old Quarries	1955	481603
E	28m SE	Unspecified Quarry	1861	490617
E	30m SE	Unspecified Disused Quarry	1974	498328
E	30m SE	Unspecified Disused Quarry	1982	498328
E	31m SE	Unspecified Quarry	1900	489368
G	54m SE	Unspecified Old Quarries	1926	496080
G	57m SE	Unspecified Old Quarries	1955	496080
H	71m NE	Unspecified Quarry	1955	472715
I	72m NW	Unspecified Pit	1861	486682
H	73m NE	Unspecified Old Quarries	1926	492987
H	73m NE	Unspecified Old Quarries	1901	492987
J	74m NW	Unspecified Old Quarry	1955	500063
J	75m NW	Unspecified Old Quarry	1926	484811

ID	Location	Land Use	Date	Group ID
J	75m NW	Unspecified Old Quarry	1900	484811
J	81m NW	Unspecified Quarry	1861	472475
J	82m NW	Unspecified Disused Quarry	1974	474851
I	86m NW	Unspecified Pit	1926	485604
I	86m NW	Unspecified Pit	1900	485604
K	134m SE	Unspecified Old Quarries	1926	485335
K	134m SE	Unspecified Old Quarries	1955	485335
L	143m E	Unspecified Old Quarries	1926	486097
L	143m E	Unspecified Old Quarries	1901	486097
L	143m E	Unspecified Old Quarries	1955	487977
4	150m SE	Chimney	1969	482220
5	151m W	Rifle Range	1955	496230
M	153m NE	Butts	1974	500854
M	153m NE	Butts	1982	500854
L	159m E	Unspecified Disused Quarries	1974	490513
L	159m E	Unspecified Disused Quarries	1982	490513
N	161m W	Brick and Tile Works	1901	479562
O	163m W	Rifle Range	1926	485054
O	163m W	Rifle Range	1901	485054
N	186m W	Unspecified Commercial/Industrial	1927	472910
P	214m E	Butts	1974	493200
P	214m E	Butts	1982	493200
6	221m NW	Television Station	1974	475254
Q	221m E	Unspecified Old Quarry	1926	492594
Q	222m E	Unspecified Old Quarry	1955	492594
Q	222m E	Unspecified Disused Quarry	1974	474976
R	234m SE	Unspecified Quarry	1955	491690
7	235m E	Spinning Mill	1861	479384

ID	Location	Land Use	Date	Group ID
R	236m SE	Unspecified Disused Quarry	1974	501064
R	236m SE	Unspecified Disused Quarry	1982	501064
R	243m SE	Unspecified Quarry	1926	488313
R	243m SE	Unspecified Quarry	1900	488313
D	246m NE	Unspecified Disused Quarry	1974	488291
D	246m NE	Unspecified Disused Quarry	1982	488291
S	253m NE	Unspecified Old Quarries	1926	490235
S	253m NE	Unspecified Old Quarries	1901	490235
D	253m NE	Unspecified Quarry	1861	472721
M	253m NE	Unspecified Heap	1926	490238
M	253m NE	Unspecified Heap	1901	490238
D	254m NE	Unspecified Old Quarry	1955	476651
M	256m NE	Unspecified Heap	1861	501110
S	256m NE	Unspecified Old Quarries	1955	486591
S	256m NE	Unspecified Quarry	1861	472717
S	265m NE	Unspecified Disused Quarries	1974	479672
T	280m W	Clay Pit	1955	496837
U	282m W	Old Clay Pit	1955	489328
V	282m NE	Unspecified Disused Quarries	1974	479671
V	287m NE	Unspecified Quarry	1861	472716
T	288m W	Clay Pit	1927	496837
U	288m W	Unspecified Disused Pit	1974	479520
V	291m NE	Unspecified Old Quarries	1926	486194
V	291m NE	Unspecified Old Quarries	1901	486194
V	291m NE	Unspecified Old Quarries	1955	489302
U	291m W	Old Clay Pit	1927	500471
U	291m W	Old Clay Pit	1901	500471
R	300m SE	Unspecified Old Quarry	1955	490850

ID	Location	Land Use	Date	Group ID
R	301m SE	Unspecified Quarry	1861	472526
R	301m SE	Unspecified Old Quarry	1926	494560
R	301m SE	Unspecified Old Quarry	1900	494560
8	303m W	Tile Works	1861	483416
9	312m E	Unspecified Quarry	1861	472720
T	326m W	Clay Pit	1901	484644
W	350m SE	Unspecified Old Quarry	1955	493487
X	351m E	Unspecified Disused Quarry	1974	502553
X	351m E	Unspecified Disused Quarry	1982	502553
X	352m E	Unspecified Old Quarry	1926	489813
X	352m E	Unspecified Old Quarries	1901	481648
X	352m E	Unspecified Old Quarry	1955	489813
Y	353m NW	Unspecified Old Quarry	1926	487003
Y	353m NW	Unspecified Old Quarry	1901	487003
X	355m E	Unspecified Quarry	1861	472718
10	358m E	Smithy	1901	480701
W	358m SE	Unspecified Old Quarry	1926	493487
W	358m SE	Unspecified Quarry	1900	472525
W	360m SE	Unspecified Disused Quarry	1974	486744
W	360m SE	Unspecified Disused Quarry	1982	486744
Y	390m NW	Unspecified Old Quarry	1955	488342
Z	393m NE	Refuse Heap	1865	475431
AA	395m E	Unspecified Old Quarry	1923	499919
AA	395m E	Unspecified Old Quarry	1900	499919
AA	395m E	Unspecified Old Quarry	1923	499919
Z	396m NE	Gravel Pit	1858	484050
AA	400m E	Unspecified Old Quarry	1955	484744
AA	400m E	Unspecified Quarry	1865	487162

ID	Location	Land Use	Date	Group ID
AA	402m E	Unspecified Quarry	1858	487162
AB	417m W	Unspecified Mill	1955	497647
AB	417m W	Unspecified Mill	1861	488541
AB	421m W	Unspecified Mill	1926	499661
AB	421m W	Unspecified Mill	1901	499661
AC	456m SE	Smithy	1861	500431
AC	459m SE	Smithy	1901	500431
AD	478m SW	Smithy	1926	499828
AD	478m SW	Smithy	1900	499828
AD	478m SW	Smithy	1955	501238
AD	490m SW	Smithy	1860	501809

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**3**

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 18 >**

ID	Location	Land Use	Date	Group ID
F	52m SE	Tank or Trough	1858	65689
F	52m SE	Tank or Trough	1858	65689
3	71m NW	Unspecified Tank	1969	64629

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	0

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'.

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	0

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'.

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill

3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Scottish Environment Protection (SEPA) regulation.

This data is sourced from the Scottish Environment Protection Agency.

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 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Scottish Environment Protection Acency (SEPA) regulation.

This data is sourced from the Scottish Environment Protection Agency.

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.

4 Current industrial land use

Site Outline

Search buffers in metres (m)

Recent industrial land uses

NGD current or recent tanks

Gas pipelines

4.1 Recent industrial land uses

Records within 250m	25

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Pylon**	**Angus, DD4**	**Electrical Features**	**Infrastructure and Facilities**
2	**On site**	**Quarries (Disused)**	**Angus, DD8**	**Unspecified Quarries Or Mines**	**Extractive Industries**
4	62m NE	Wind Turbine	Angus, DD4	Energy Production	Industrial Features

ID	Location	Company	Address	Activity	Category
5	66m SE	Quarry (Disused)	Angus, DD4	Unspecified Quarries Or Mines	Extractive Industries
6	76m SE	Pylon	Angus, DD4	Electrical Features	Infrastructure and Facilities
B	106m SW	Electricity Sub Station	Angus, DD4	Electrical Features	Infrastructure and Facilities
B	115m S	Balkemback Farm Turbine 1 Turbine	Angus, DD4	Energy Production	Industrial Features
B	115m S	Balkemback Farm Turbine 1	Angus, DD4	Energy Production	Industrial Features
B	116m S	Wind Turbine	Angus, DD4	Energy Production	Industrial Features
7	119m NW	Quarry (Disused)	Angus, DD4	Unspecified Quarries Or Mines	Extractive Industries
8	149m SW	Wind Farm	Angus, DD4	Energy Production	Industrial Features
9	151m NE	Silo	Angus, DD4	Hoppers and Silos	Farming
C	168m SW	Wind Turbine	Angus, DD3	Energy Production	Industrial Features
C	168m SW	Balkemback Farm Turbine 2 Turbine	Angus, DD3	Energy Production	Industrial Features
C	168m SW	Balkemback Farm Turbine 2	Angus, DD3	Energy Production	Industrial Features
10	172m E	Quarry (Disused)	Angus, DD8	Unspecified Quarries Or Mines	Extractive Industries
11	180m NW	Pylon	Angus, DD3	Electrical Features	Infrastructure and Facilities
12	183m W	Pump	Angus, DD8	Water Pumping Stations	Industrial Features
13	209m SW	Pump	Angus, DD8	Water Pumping Stations	Industrial Features
14	214m S	Pylon	Angus, DD3	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
D	220m NW	Television Station	Angus, DD4	Telecommunications Features	Infrastructure and Facilities
15	240m E	Quarry (Disused)	Angus, DD8	Unspecified Quarries Or Mines	Extractive Industries
D	243m NW	Mast	Angus, DD4	Telecommunications Features	Infrastructure and Facilities
16	247m E	Pylon	Angus, DD4	Electrical Features	Infrastructure and Facilities
D	250m NW	Pylon	Angus, DD4	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 National Geographic Database (NGD) - Current or recent tanks

Records within 250m	**2**

Current or recent tanks identified from the Ordnance Survey NGD.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Tank description	Activity	Date first identified
A	71m NW	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	20/06/2014
A	75m NW	Open Storage Tank	Commercial Activity: Distribution Or Storage	21/07/2005

This data is sourced from Ordnance Survey.

4.3 Current or recent petrol stations

Records within 500m	**0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m	**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m	1

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Pipe Name	Details	
3	**On site**	**KIRRIEMUIR TO BATHGATE**	**Pipe Number: -** **Pipeline Safety Regulations Number: -** **Ownership: National Grid** **Maximum Operating Pressure (Bar): -**	**Pipeline Diameter (mm): 900** **Wall Thickness (mm): -** **Year of commission: Not specified** **Abandonment Status: Not abandoned**

This data is sourced from National Grid.

4.6 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.

4.7 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.

4.8 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.

4.9 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.

4.10 Part A(1), IPPC and Historic IPC Authorisations

Records within 500m	0

Records of Part A installations regulated for the release of substances to the environment.

This data is sourced from the Scottish Environment Protection Agency.

4.11 Part B Authorisations

Records within 500m	0

Records of Part B installations regulated for the release of substances to the environment.

This data is sourced from the Scottish Environment Protection Agency.

4.12 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.

4.13 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.

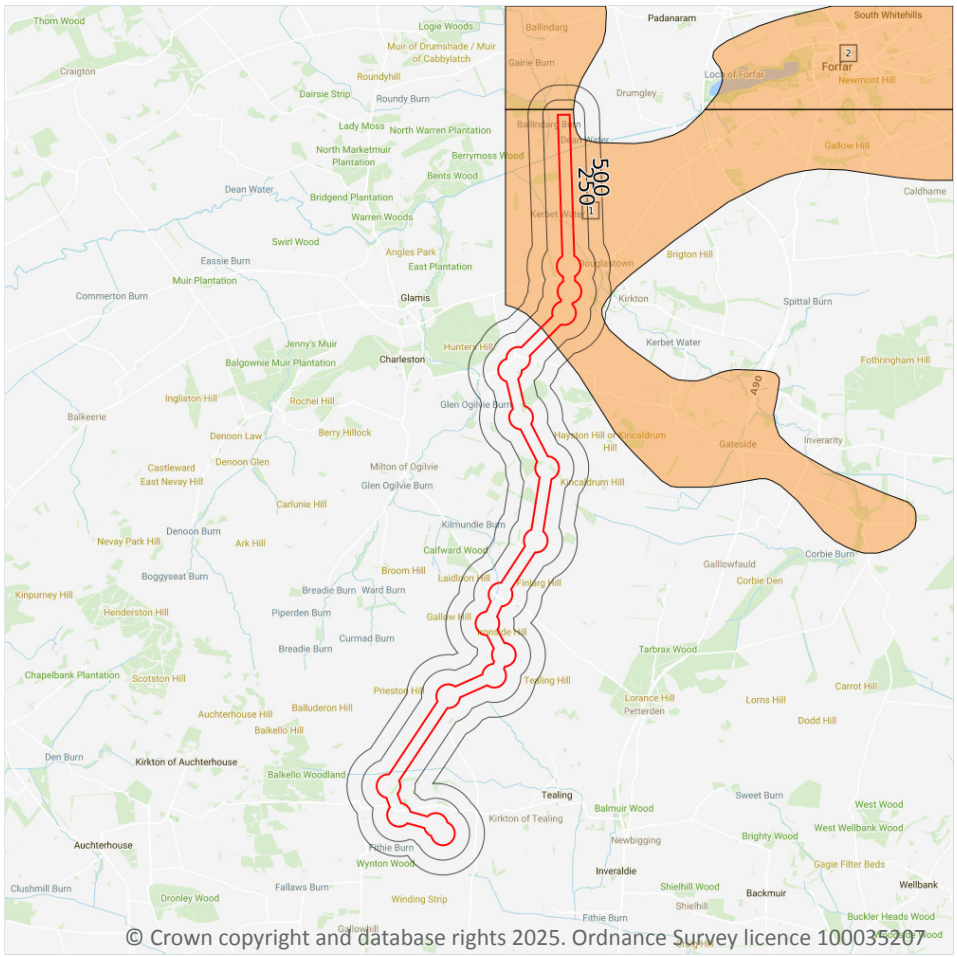
4.14 Pollution inventory radioactive waste

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



5.1 Superficial aquifer

Records within 500m	2

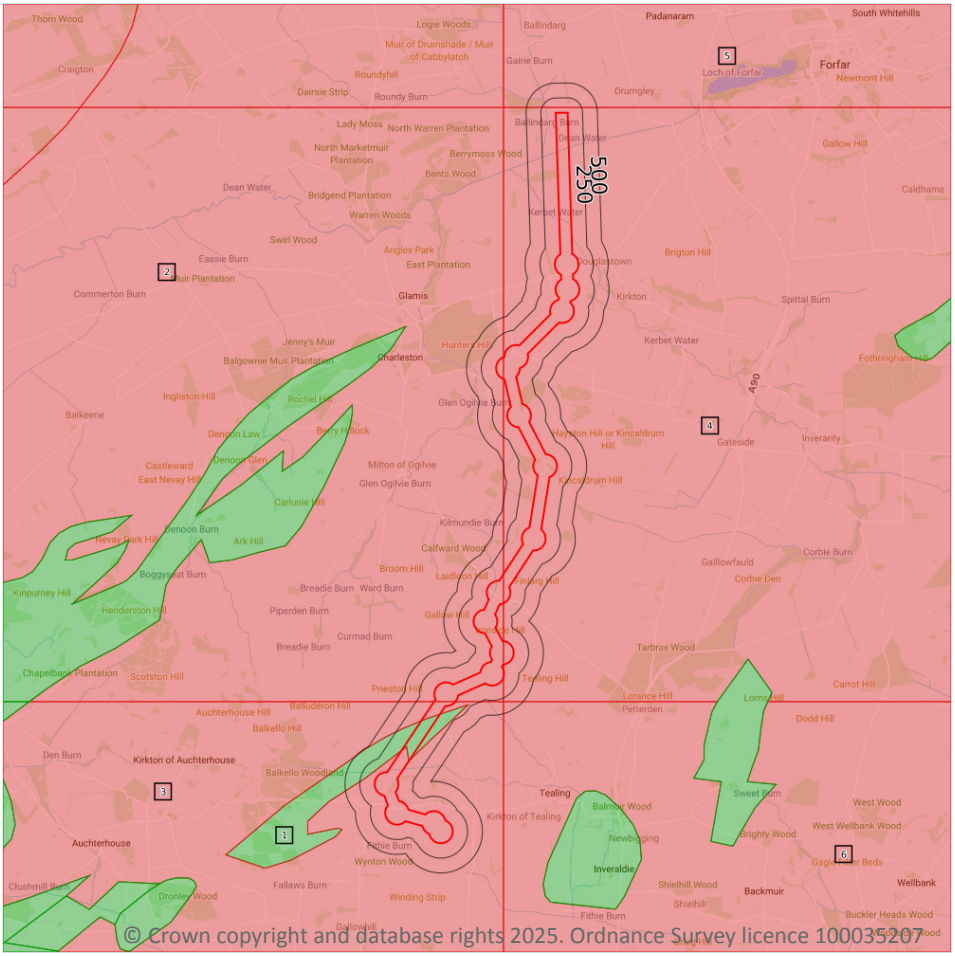
Records of groundwater classification within superficial geology.

Features are displayed on the Hydrogeology map on **page 32 >**

ID	Location	Description	Type	Rock description
1	**On site**	**Aquifers in which intergranular flow is significant**	**Locally important aquifers**	**Quaternary Sands and Gravels**
2	88m N	Aquifers in which intergranular flow is significant	Locally important aquifers	Quaternary Sands and Gravels

This data is sourced from the British Geological Survey.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Highly productive - fissures/discontinuities
- Highly productive - intergranular
- Moderately productive - fissures/discontinuities
- Moderately productive - intergranular
- Low productive - fissures/discontinuities
- Low productive - intergranular
- No significant groundwater

5.2 Bedrock aquifer

Records within 500m	6

Records of groundwater classification within bedrock geology.

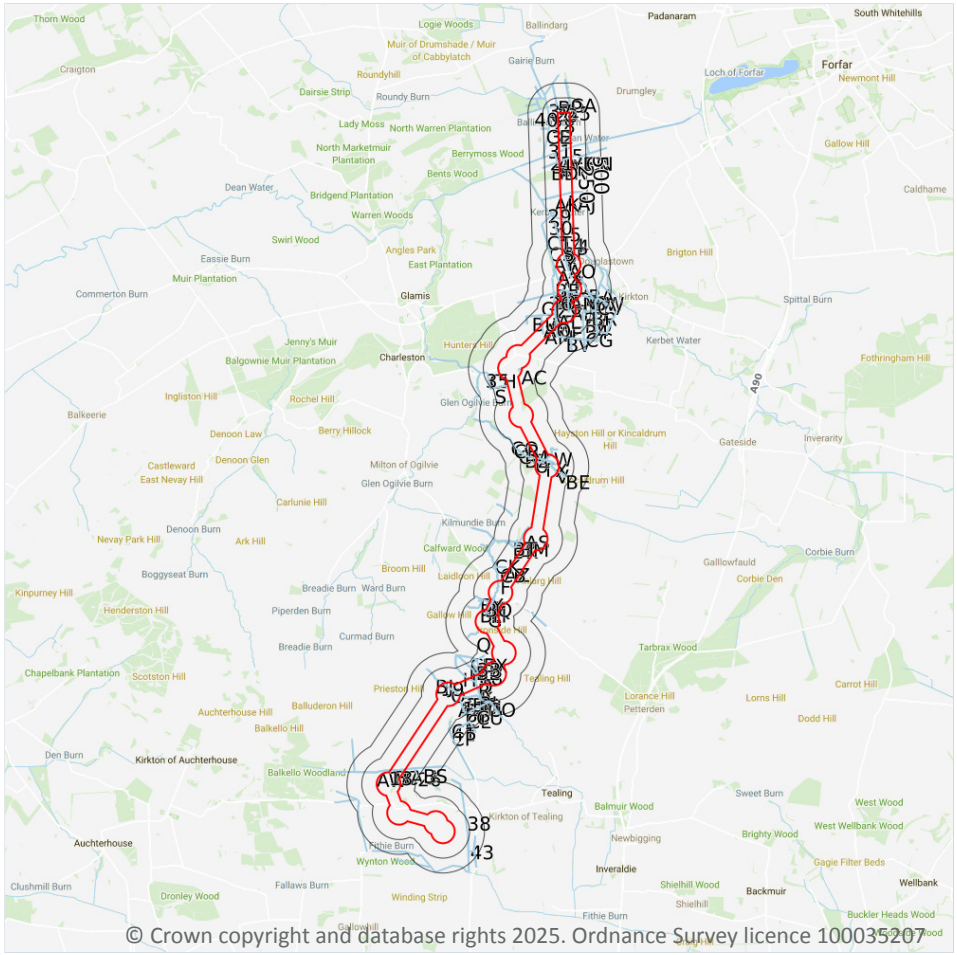
Features are displayed on the Bedrock aquifer map on **page 33 >**

ID	Location	Description	Flow	Summary	Rock description
1	**On site**	**Low productivity aquifer**	**Flow is virtually all through fractures and other discontinuities**	**Small amounts of groundwater in near surface weathered zone and secondary fractures, rare springs yielding up to 2 L/s.**	**UNNAMED EXTRUSIVE ROCKS, SILURIAN TO DEVONIAN**

ID	Location	Description	Flow	Summary	Rock description
2	**On site**	**Moderately productive aquifer**	**Flow is virtually all through fractures and other discontinuities**	**Sandstones, in places flaggy, with siltstones, mudstones and conglomerates and interbedded lavas, locally yield moderate amounts of groundwater.**	**ARBUTHNOTT-GARVOCK GROUP**
3	**On site**	**Moderately productive aquifer**	**Flow is virtually all through fractures and other discontinuities**	**Sandstones, in places flaggy, with siltstones, mudstones and conglomerates and interbedded lavas, locally yield moderate amounts of groundwater.**	**ARBUTHNOTT-GARVOCK GROUP**
4	**On site**	**Moderately productive aquifer**	**Flow is virtually all through fractures and other discontinuities**	**Sandstones, in places flaggy, with siltstones, mudstones and conglomerates and interbedded lavas, locally yield moderate amounts of groundwater.**	**ARBUTHNOTT-GARVOCK GROUP**
5	88m N	Moderately productive aquifer	Flow is virtually all through fractures and other discontinuities	Sandstones, in places flaggy, with siltstones, mudstones and conglomerates and interbedded lavas, locally yield moderate amounts of groundwater.	ARBUTHNOTT-GARVOCK GROUP
6	307m SE	Moderately productive aquifer	Flow is virtually all through fractures and other discontinuities	Sandstones, in places flaggy, with siltstones, mudstones and conglomerates and interbedded lavas, locally yield moderate amounts of groundwater.	ARBUTHNOTT-GARVOCK GROUP

This data is sourced from the British Geological Survey.

6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m	193

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 35 >**

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

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Kerbet Water
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Dean Water
6	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
7	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
8	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Kilmundie Burn

ID	Location	Type of water feature	Ground level	Permanence	Name
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Kilmundie Burn
J	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Kilmundie Burn
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Kilmundie Burn
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AE	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AI	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AJ	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AM	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AN	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
AO	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
AP	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
AQ	1m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AR	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	11m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	17m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	30m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	30m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AU	35m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AT	35m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AV	36m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	37m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
13	39m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AU	45m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	46m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	47m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	47m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
14	49m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
15	49m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AZ	52m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	55m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	59m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BB	60m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
17	64m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
18	64m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AT	65m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BC	67m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BD	68m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	71m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	71m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BE	72m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BE	72m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	72m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
19	73m NW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
BC	73m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BF	73m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
20	74m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BH	76m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BG	89m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BI	91m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	93m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BK	93m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BL	96m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	100m W	Marsh. An area that is predominantly waterlogged by freshwater.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	100m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
21	108m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Dean Water
AU	109m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BN	109m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	110m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
22	111m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BO	111m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
24	114m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
25	114m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BP	114m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	114m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BQ	115m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BR	116m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AU	116m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
26	120m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
BS	120m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BT	121m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BU	123m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BV	126m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BW	127m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BX	128m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
28	131m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ballindarg Burn
BQ	133m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BY	133m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
29	156m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Kerbet Water
30	156m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BZ	159m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
31	159m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ballindarg Burn
32	159m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CA	161m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CB	164m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CC	167m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CB	170m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
CD	175m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
33	179m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BZ	183m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BZ	183m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CE	183m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
34	184m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CF	186m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CG	187m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BZ	189m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CH	190m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CH	190m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CH	190m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
35	190m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
CH	192m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CI	193m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
36	198m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CJ	201m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
37	201m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ballindarg Burn
CC	201m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
38	209m E	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
CK	209m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Kilmundie Burn
40	210m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CL	213m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CI	216m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CM	217m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
41	218m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
CN	219m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CN	219m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CI	226m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CL	229m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CO	230m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CP	232m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CQ	232m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CL	233m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
43	234m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CL	234m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CR	236m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CM	236m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CQ	237m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
CS	237m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CS	237m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CS	237m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CT	239m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CL	240m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CL	242m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CU	242m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CV	244m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CV	249m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CQ	250m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

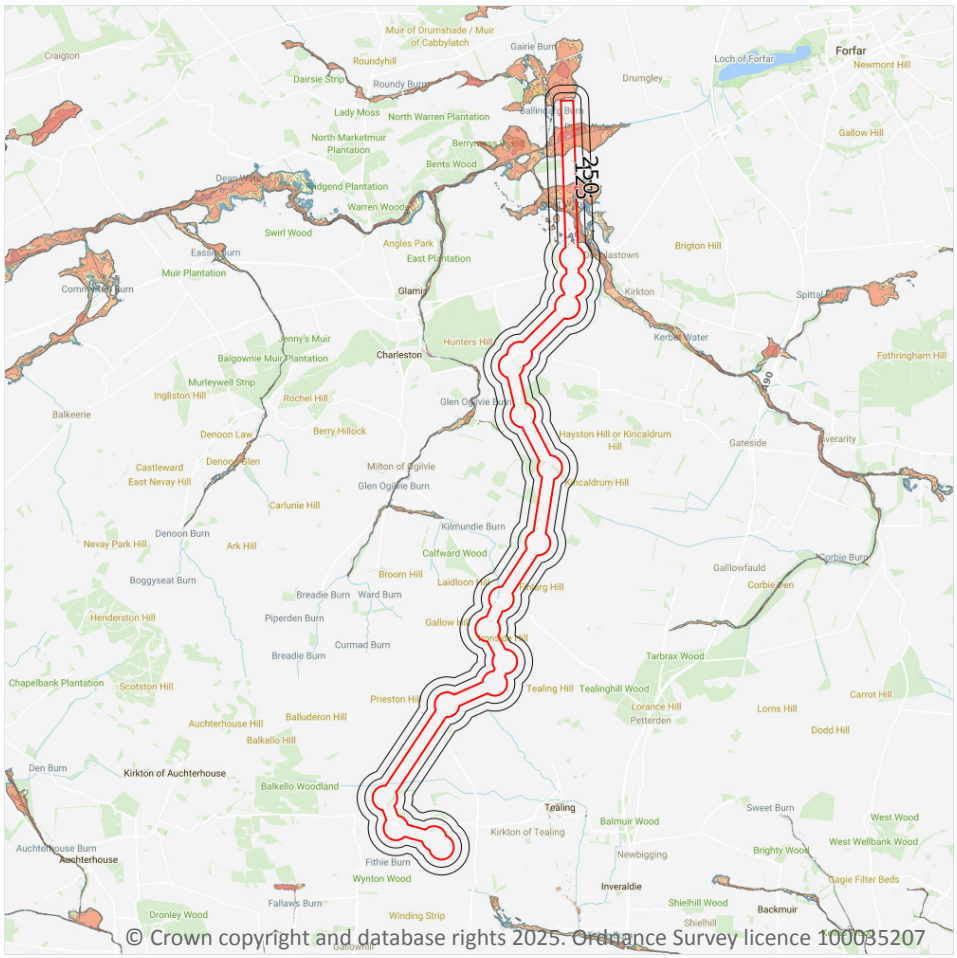
Records within 250m	**69**

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 35 >**

This data is sourced from the Ordnance Survey.

7 River flooding



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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

7.1 River 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**

This is an assessment of flood risk for rivers in Scotland produced using modelled data, provided by Ambiental Risk Analytics. It also takes account of flood defence information provided by the Scottish Environment Protection Agency (SEPA). It shows the chance of flooding from rivers presented in the following categories:

- 1 in 30 year (3.33%)
- 1 in 100 year (1%)

- 1 in 250 year (0.4%)
- and 1 in 1,000 year (0.1%)

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.

Features are displayed on the River flooding map on **page 52 >**

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 Ambiental Risk Analytics.

8 Coastal flooding - Coastal flooding

8.1 Coastal flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

This is an assessment of coastal flood risk in Scotland produced using modelled data, provided by Ambiental Risk Analytics. It also takes account of flood defence information provided by the Scottish Environment Protection Agency (SEPA). It shows the chance of coastal flooding presented in the following categories:

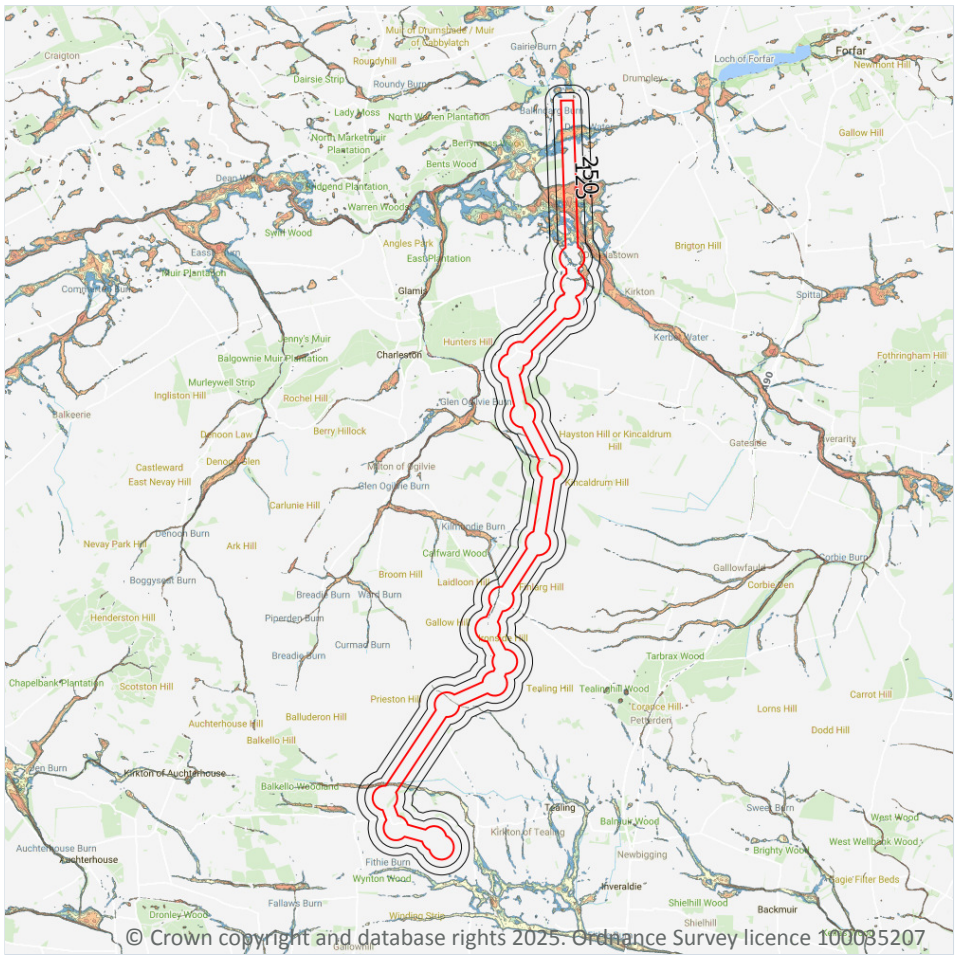
- 1 in 30 year (3.33%)
- 1 in 100 year (1%)
- 1 in 250 year (0.4%)
- and 1 in 1,000 year (0.1%)

The data shown on the map shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 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

9.1 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 55 >**

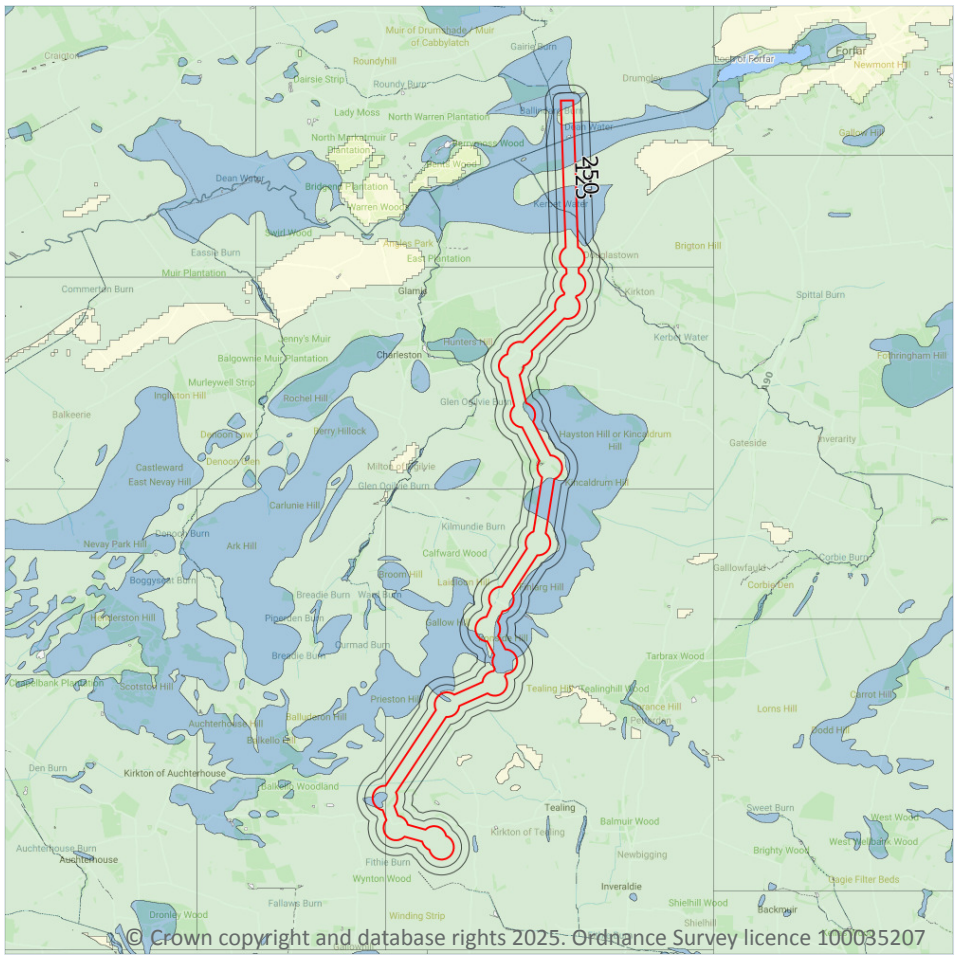
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on

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 Ambiental Risk Analytics.

10 Groundwater flooding



Site Outline

Search buffers in metres (m)

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

10.1 Groundwater flooding

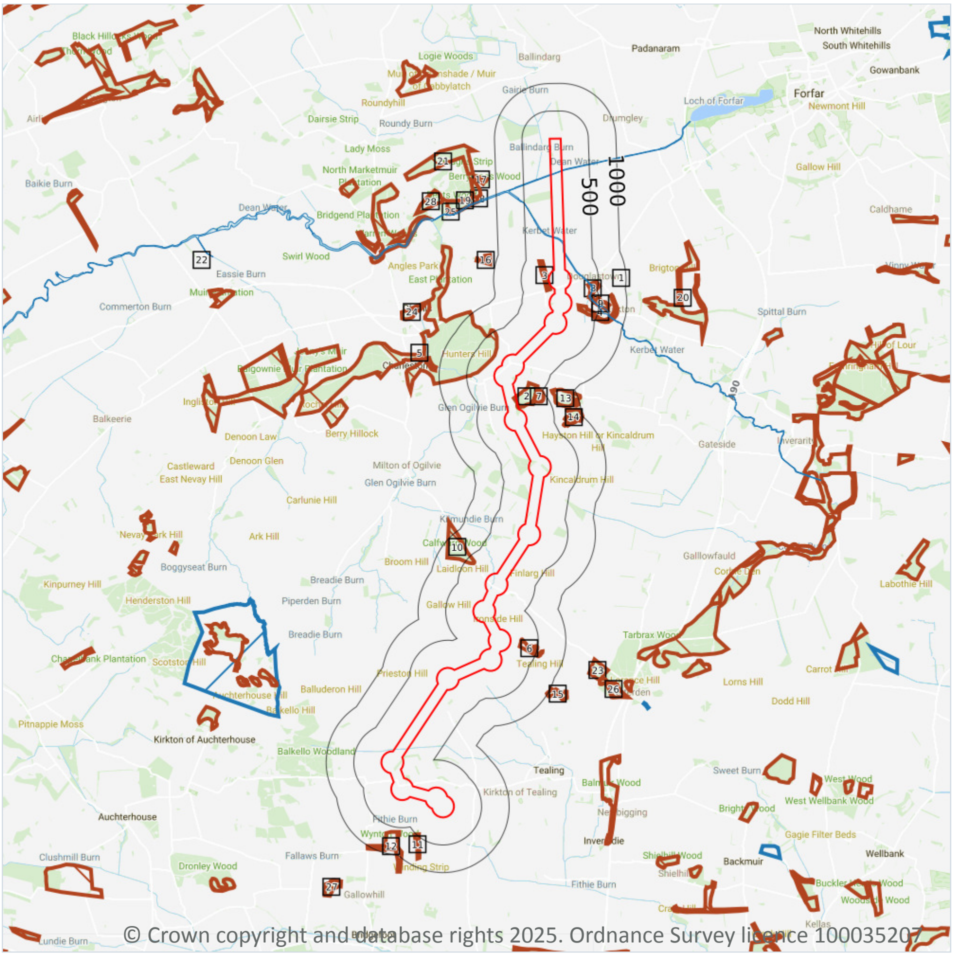
Highest risk on site	**Low**
Highest risk within 50m	**Low**

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 57 >**

This data is sourced from Ambiental Risk Analytics.

11 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Special Areas of Conservation (SAC)

Designated Ancient Woodland

11.1 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.

11.2 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.

11.3 Special Areas of Conservation (SAC)

Records within 2000m	2

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.

Features are displayed on the Environmental designations map on **page 58 >**

ID	Location	Name	Features of interest	Habitat description	Data source
1	**On site**	**River Tay**	**Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; Sea lamprey; Brook lamprey; River lamprey; Atlantic salmon; Otter**	**Inland water bodies (Standing water, Running water); Shingle, Sea cliffs, Islets; Bogs, Marshes, Water fringed vegetation, Fens**	**Scottish Natural Heritage**
22	1500m W	River Tay	Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; Sea lamprey; Brook lamprey; River lamprey; Atlantic salmon; Otter	Inland water bodies (Standing water, Running water); Shingle, Sea cliffs, Islets; Bogs, Marshes, Water fringed vegetation, Fens	Scottish Natural Heritage

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

11.4 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.

11.5 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.

11.6 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.

11.7 Designated Ancient Woodland

Records within 2000m	26

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

Features are displayed on the Environmental designations map on **page 58 >**

ID	Location	Name	Woodland Type
2	**On site**	**Unknown**	**Long-Established (of plantation origin)**
3	14m W	Unknown	Long-Established (of plantation origin)
4	126m E	Unknown	Long-Established (of plantation origin)
5	179m NW	East Plantation/lera Wood	Long-Established (of plantation origin)
6	179m E	Unknown	Long-Established (of plantation origin)
7	258m NE	Unknown	Long-Established (of plantation origin)
8	319m E	Unknown	Long-Established (of plantation origin)
9	330m E	Unknown	Other (on Roy map)
10	363m NW	Calfward Wood	Long-Established (of plantation origin)

ID	Location	Name	Woodland Type
11	468m SW	Unknown	Long-Established (of plantation origin)
12	578m S	Wynton Wood	Long-Established (of plantation origin)
13	594m NE	Unknown	Long-Established (of plantation origin)
14	632m NE	Unknown	Long-Established (of plantation origin)
15	987m SE	Unknown	Ancient (of semi-natural origin)
16	1091m W	Unknown	Long-Established (of plantation origin)
17	1155m W	Berrymoss Wood	Long-Established (of plantation origin)
18	1276m W	Bents Wood	Long-Established (of plantation origin)
19	1284m W	Bents Wood	Long-Established (of plantation origin)
20	1317m E	Unknown	Long-Established (of plantation origin)
21	1373m W	North Warren Plantation	Long-Established (of plantation origin)
23	1526m E	Unknown	Long-Established (of plantation origin)
24	1737m NW	Unknown	Long-Established (of plantation origin)
25	1747m W	Bents Wood	Long-Established (of plantation origin)
26	1751m E	Unknown	Long-Established (of plantation origin)
27	1805m SW	Unknown	Long-Established (of plantation origin)
28	1944m W	Unknown	Long-Established (of plantation origin)

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

11.8 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.

11.9 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.

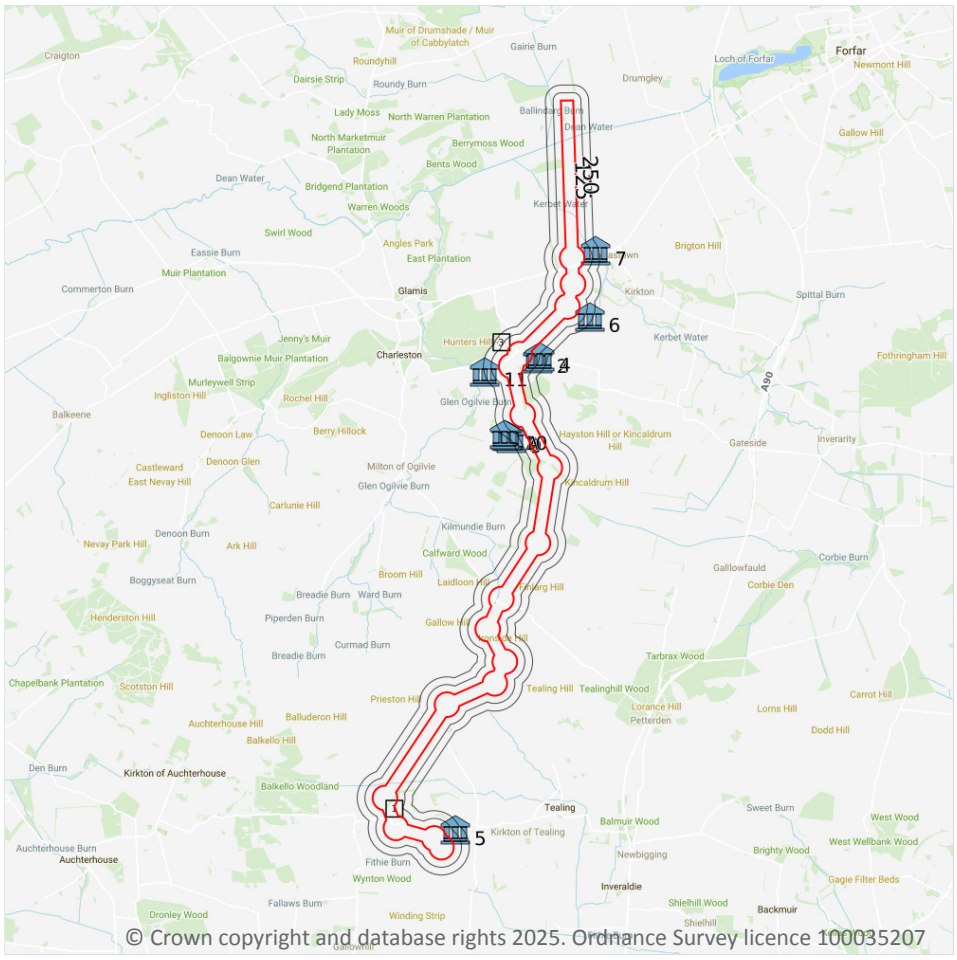
11.10 Marine Conservation Zones

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.

12 Visual and cultural designations



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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

12.1 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.

12.2 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.

12.3 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.

12.4 Listed Buildings

Records within 250m	11

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 63 >**

ID	Location	Name	Grade	Reference Number	Listed date
2	98m E	Upper Hayston, Angus	C	392674	25/09/1998
4	131m E	Walled Garden, Upper Hayston, Angus	C	392675	25/09/1998
5	160m NE	Balkemback, Angus	C	351376	10/12/1991
6	196m SE	Nether Hayston, Angus	B	392686	25/09/1998
7	202m E	Douglastown House, Angus	C	344692	11/06/1971
8	214m SW	Cottage, Arniefoul, Angus	C	392630	25/09/1998

ID	Location	Name	Grade	Reference Number	Listed date
9	217m SW	Cottage, Arniefoul, Angus	C	392628	25/09/1998
A	220m SW	Cottage, Arniefoul, Angus	C	392627	25/09/1998
A	220m SW	Cottage, Arniefoul, Angus	C	392629	25/09/1998
10	235m SW	Cottage, Arniefoul, Angus	C	392631	25/09/1998
11	239m W	Nether Arniefoul, Angus	B	392684	25/09/1998

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

12.5 Conservation Areas

Records within 250m	**0**

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.

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

12.6 Scheduled Ancient Monuments

Records within 250m	**2**

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.

Features are displayed on the Visual and cultural designations map on **page 63 >**

ID	Location	Ancient monument name	Reference number
1	**On site**	**Balkemback Cottages, stone circle 500m WNW of**	**-**
3	105m NW	Nether Arniefoul, unenclosed settlement 500m NE of	-

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

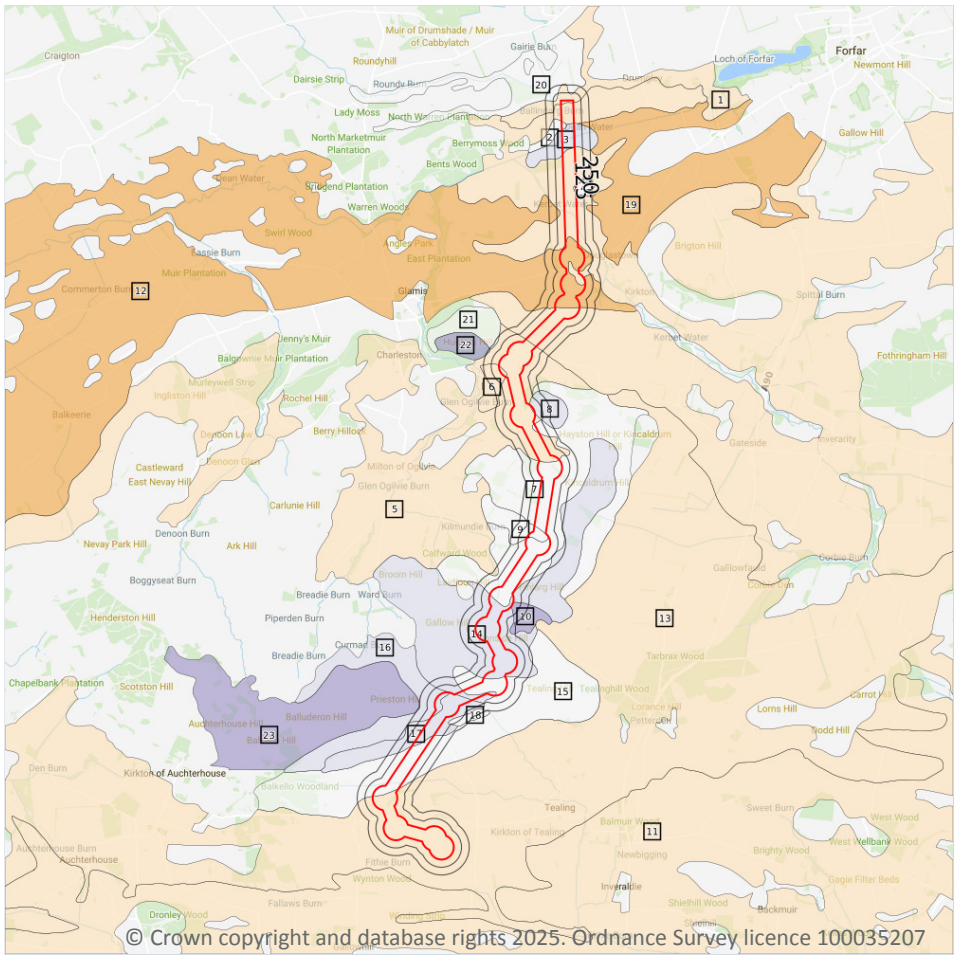
12.7 Registered Parks and Gardens

Records within 250m	0

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

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

13 Agricultural designations



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13.1 Agricultural Land Classification

Records within 250m	23

Classification of the quality of agricultural land taking into consideration multiple factors inclusing 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.

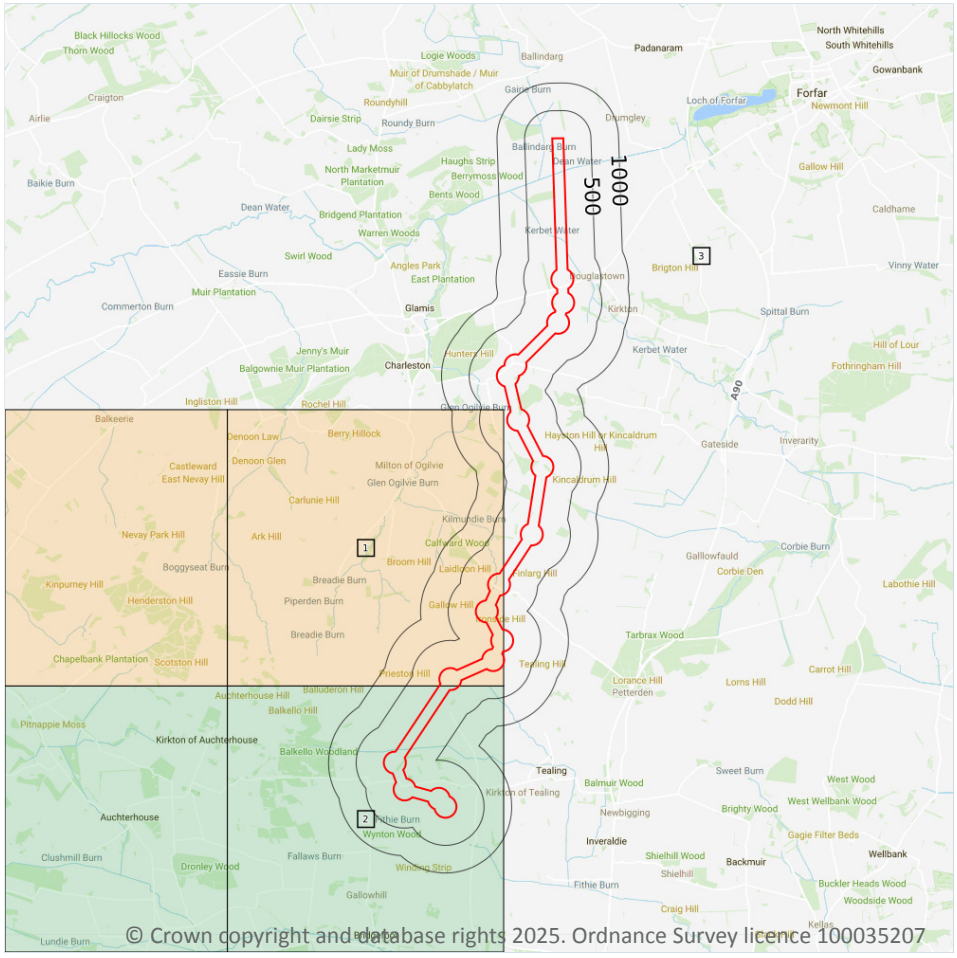
Features are displayed on the Agricultural designations map on **page 67 >**

ID	Location	Classification	Description
1	On site	Grade 3.2	Land Suited to Arable Cropping
2	On site	Grade 4.2	Land Suited to Arable Cropping
3	On site	Grade 5.3	Land Suited only to Improved Grassland and Rough Grazings

ID	Location	Classification	Description
4	**On site**	**Grade 4.2**	**Land Suited to Arable Cropping**
5	**On site**	**Grade 3.2**	**Land Suited to Arable Cropping**
6	**On site**	**Grade 3.1**	**Land Suited to Arable Cropping**
7	**On site**	**Grade 4.1**	**Land Suited to Arable Cropping**
8	**On site**	**Grade 5.2**	**Land Suited only to Improved Grassland and Rough Grazings**
9	**On site**	**Grade 4.2**	**Land Suited to Arable Cropping**
10	**On site**	**Grade 6.2**	**Land Suited only to Improved Grassland and Rough Grazings**
11	**On site**	**Grade 3.1**	**Land Suited to Arable Cropping**
12	**On site**	**Grade 2**	**Land Suited to Arable Cropping**
13	**On site**	**Grade 3.2**	**Land Suited to Arable Cropping**
14	**On site**	**Grade 5.2**	**Land Suited only to Improved Grassland and Rough Grazings**
15	**On site**	**Grade 4.1**	**Land Suited to Arable Cropping**
16	**On site**	**Grade 5.3**	**Land Suited only to Improved Grassland and Rough Grazings**
17	**On site**	**Grade 5.1**	**Land Suited only to Improved Grassland and Rough Grazings**
18	52m SE	Grade 4.2	Land Suited to Arable Cropping
19	65m E	Grade 2	Land Suited to Arable Cropping
20	72m W	Grade 4.2	Land Suited to Arable Cropping
21	211m NW	Grade 4.2	Land Suited to Arable Cropping
22	224m NW	Grade 6.3	Land Suited only to Improved Grassland and Rough Grazings
23	240m NW	Grade 6.3	Land Suited only to Improved Grassland and Rough Grazings

This data is sourced from the James Hutton Institute.

14 Geology 1:10,000 scale - Availability



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Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	3

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 69 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Partial	Partial	No coverage	NO34SE
2	On site	Full	Full	Full	No coverage	NO33NE
3	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

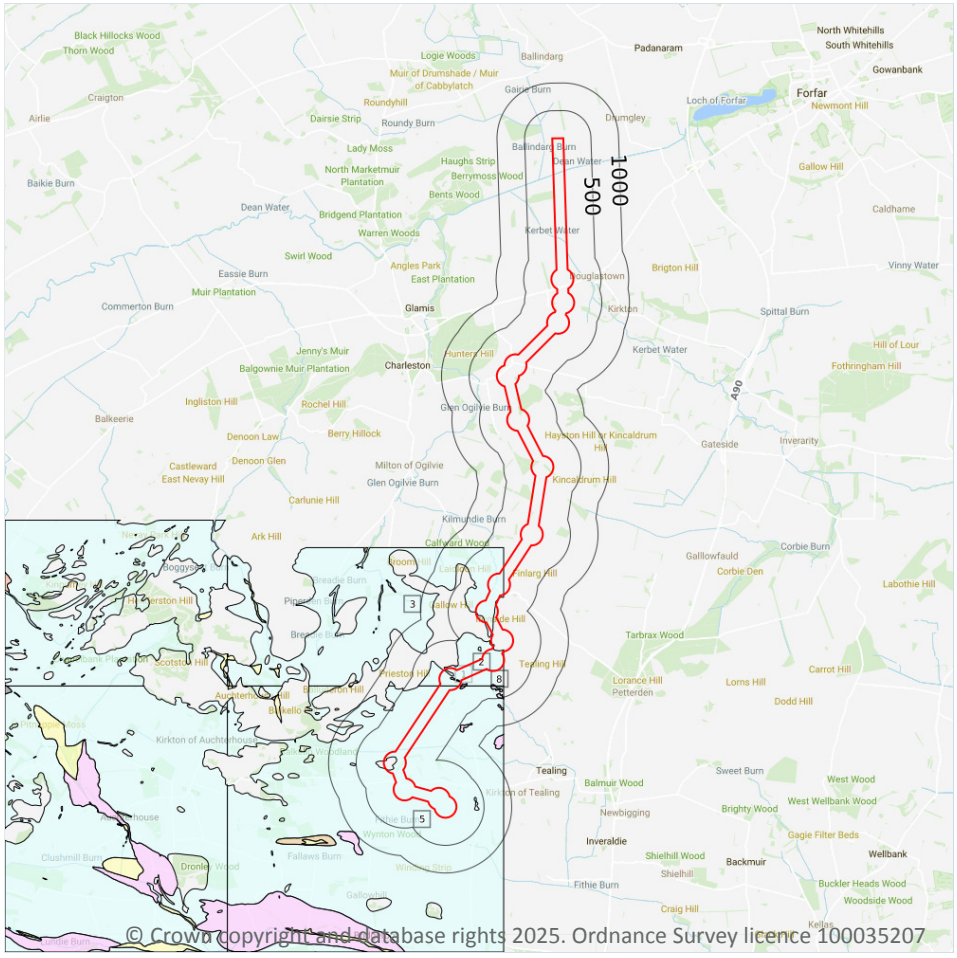
14.2 Artificial and made ground (10k)

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



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m	10

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 71 >**

ID	Location	LEX Code	Description	Rock description
1	On site	GFIC-XSV	Glaciofluvial Ice Contact Deposits - Sand And Gravel	Sand And Gravel
2	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

ID	Location	LEX Code	Description	Rock description
4	**On site**	**GFIC-XSV**	**Glaciofluvial Ice Contact Deposits - Sand And Gravel**	**Sand And Gravel**
5	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
6	33m SE	GFIC-XSV	Glaciofluvial Ice Contact Deposits - Sand And Gravel	Sand And Gravel
7	39m SE	GFIC-XSV	Glaciofluvial Ice Contact Deposits - Sand And Gravel	Sand And Gravel
8	247m S	GFIC-XSV	Glaciofluvial Ice Contact Deposits - Sand And Gravel	Sand And Gravel
9	271m S	GFIC-XSV	Glaciofluvial Ice Contact Deposits - Sand And Gravel	Sand And Gravel
10	415m S	GFIC-XSV	Glaciofluvial Ice Contact Deposits - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

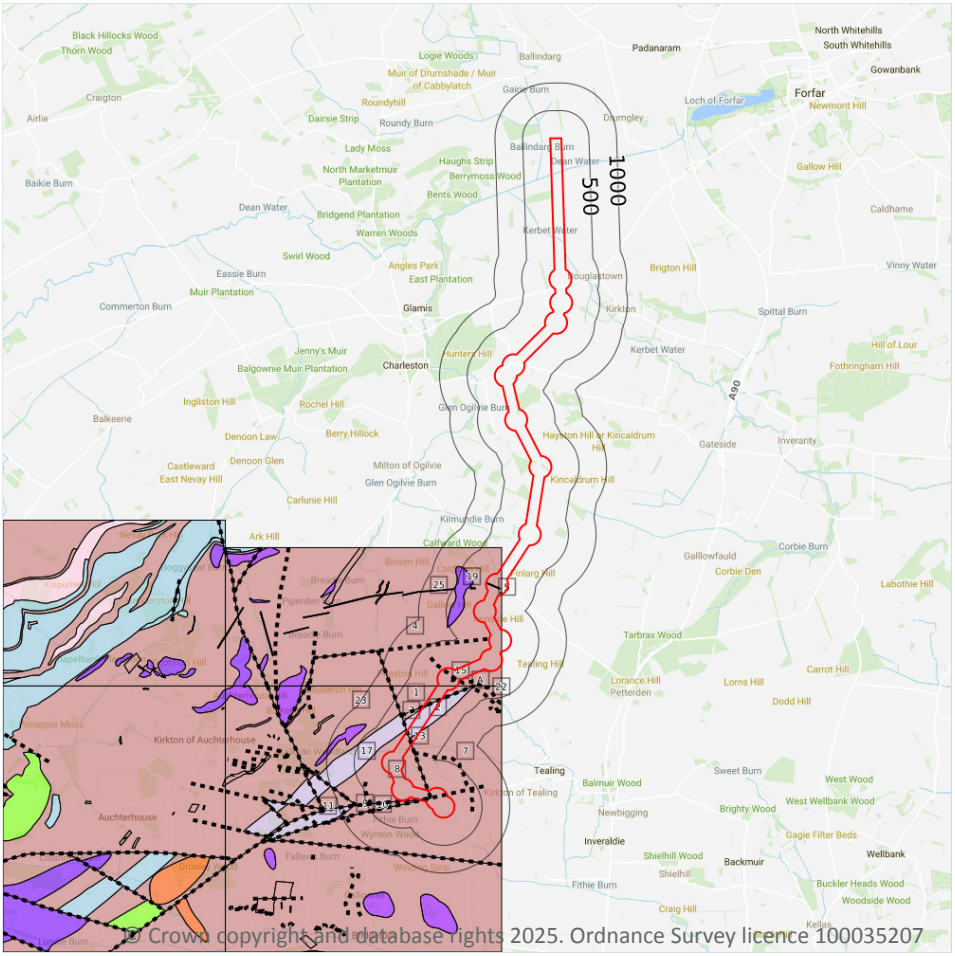
14.4 Landslip (10k)

Records within 500m	**0**

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	15

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 73 >**

ID	Location	LEX Code	Description	Rock age
1	On site	DEF-SDSM	Dundee Flagstone Formation - Sandstone, Siltstone And Mudstone	Early Devonian Epoch
2	On site	OVF-ANDH	Ochil Volcanic Formation - Hypersthene Andesite	Early Devonian Epoch
3	On site	DEF-SDSM	Dundee Flagstone Formation - Sandstone, Siltstone And Mudstone	Early Devonian Epoch

ID	Location	LEX Code	Description	Rock age
4	**On site**	**DEF-SDSM**	**Dundee Flagstone Formation - Sandstone, Siltstone And Mudstone**	**Early Devonian Epoch**
5	**On site**	**CSTD-MCQGB**	**Central Scotland Late Carboniferous Tholeiitic Dyke Swarm - Quartz-microgabbro**	**Silesian Sub-period [Obsolete name]**
6	**On site**	**CSTD-MCQGB**	**Central Scotland Late Carboniferous Tholeiitic Dyke Swarm - Quartz-microgabbro**	**Silesian Sub-period [Obsolete name]**
7	**On site**	**DEF-SDSM**	**Dundee Flagstone Formation - Sandstone, Siltstone And Mudstone**	**Early Devonian Epoch**
8	**On site**	**DEF-SDSM**	**Dundee Flagstone Formation - Sandstone, Siltstone And Mudstone**	**Early Devonian Epoch**
9	**On site**	**DEF-SDSM**	**Dundee Flagstone Formation - Sandstone, Siltstone And Mudstone**	**Early Devonian Epoch**
17	31m NW	OVF-ANDH	Ochil Volcanic Formation - Hypersthene Andesite	Early Devonian Epoch
19	186m W	MVMAI-MCDIP	Midland Valley Siluro-devonian Mafic Intrusion Suite - Porphyritic Microdiorite	Devonian Period - Silurian Period
20	197m W	CSTD-MCGBTH	Central Scotland Late Carboniferous Tholeiitic Dyke Swarm - Tholeiitic Microgabbro	Silesian Sub-period [Obsolete name]
A	201m SE	OVF-ANDH	Ochil Volcanic Formation - Hypersthene Andesite	Early Devonian Epoch
23	275m NW	DEF-SDSM	Dundee Flagstone Formation - Sandstone, Siltstone And Mudstone	Early Devonian Epoch
25	489m NW	CSTD-MCGBTH	Central Scotland Late Carboniferous Tholeiitic Dyke Swarm - Tholeiitic Microgabbro	Silesian Sub-period [Obsolete name]

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m **12**

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.

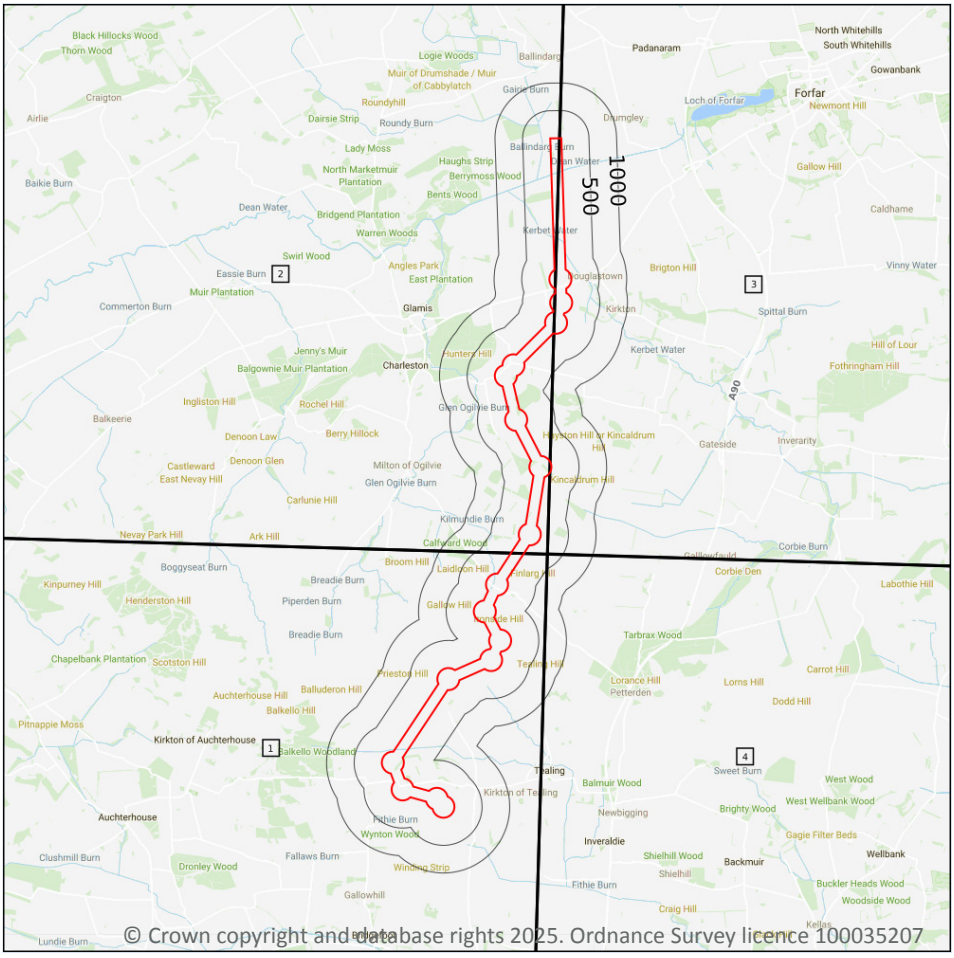
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 73 >**

ID	Location	Category	Description
10	**On site**	**FAULT**	**Normal fault, inferred; crossmarks on downthrow side**
11	**On site**	**FAULT**	**Normal fault, inferred; crossmarks on downthrow side**

ID	Location	Category	Description
12	**On site**	**FAULT**	**Normal fault, inferred; crossmarks on downthrow side**
13	**On site**	**FAULT**	**Normal fault, inferred; crossmarks on downthrow side**
14	**On site**	**FAULT**	**Normal fault, inferred; crossmarks on downthrow side**
15	**On site**	**LANDFORM**	**Glacial meltwater channel, undifferenciated, centre line**
16	**On site**	**LANDFORM**	**Glacial meltwater channel, centre line branch**
18	37m SE	LANDFORM	Glacial meltwater channel, undifferenciated, centre line
A	201m SE	FAULT	Normal fault, inferred; crossmarks on downthrow side
21	202m SE	LANDFORM	Glacial meltwater channel, centre line branch
22	258m SE	LANDFORM	Glacial meltwater channel, undifferenciated, centre line
24	403m SW	LANDFORM	Glacial meltwater channel, undifferenciated, centre line

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	4

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 76 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SC048e_Cupar_v4**
2	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**SC056e_Kirriemuir_v4**
3	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**SC057_Forfar_and_Montrose_v4**
4	276m SE	Full	Full	Full	Full	SC049_Arbroath_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.

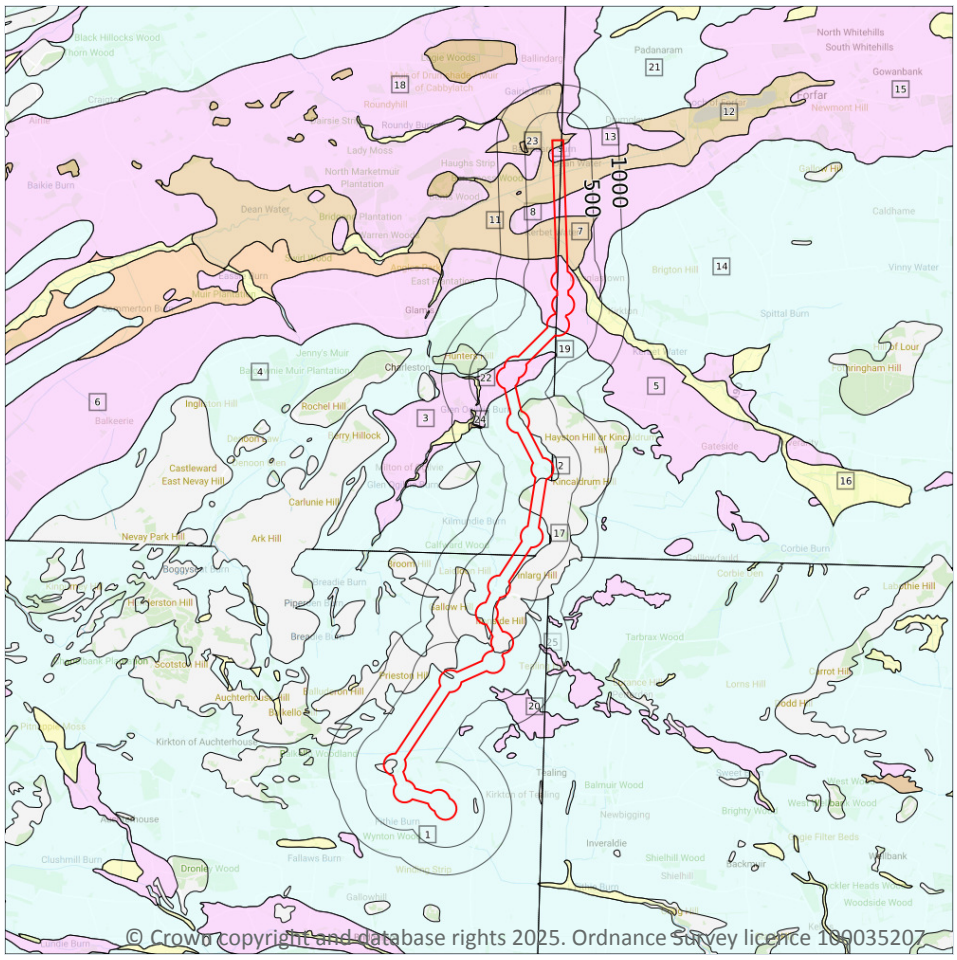
15.3 Artificial ground permeability (50k)

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	25

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 79 >**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
2	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	On site	GFDU-XVSZ	GLACIOFLUVIAL DEPOSITS	GRAVEL, SAND AND SILT

ID	Location	LEX Code	Description	Rock description
4	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
5	**On site**	**GFDU-XVSZ**	**GLACIOFLUVIAL DEPOSITS**	**GRAVEL, SAND AND SILT**
6	**On site**	**GFDU-XVSZ**	**GLACIOFLUVIAL DEPOSITS**	**GRAVEL, SAND AND SILT**
7	**On site**	**LDE-XCZS**	**LACUSTRINE DEPOSITS**	**CLAY, SILT AND SAND**
8	**On site**	**GFDU-XVSZ**	**GLACIOFLUVIAL DEPOSITS**	**GRAVEL, SAND AND SILT**
9	**On site**	**GFDU-XVSZ**	**GLACIOFLUVIAL DEPOSITS**	**GRAVEL, SAND AND SILT**
10	**On site**	**LDE-XCZS**	**LACUSTRINE DEPOSITS**	**CLAY, SILT AND SAND**
11	**On site**	**LDE-XCZS**	**LACUSTRINE DEPOSITS**	**CLAY, SILT AND SAND**
12	**On site**	**LDE-XCZS**	**LACUSTRINE DEPOSITS**	**CLAY, SILT AND SAND**
13	**On site**	**GFDU-XVSZ**	**GLACIOFLUVIAL DEPOSITS**	**GRAVEL, SAND AND SILT**
14	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
15	**On site**	**GFDU-XVSZ**	**GLACIOFLUVIAL DEPOSITS**	**GRAVEL, SAND AND SILT**
16	62m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
17	130m E	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
18	144m N	GFDU-XVSZ	GLACIOFLUVIAL DEPOSITS	GRAVEL, SAND AND SILT
19	227m SE	GFDU-XVSZ	GLACIOFLUVIAL DEPOSITS	GRAVEL, SAND AND SILT
20	249m S	GFIC-XVSZ	GLACIOFLUVIAL ICE CONTACT DEPOSITS	GRAVEL, SAND AND SILT
21	290m NE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
22	322m W	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
23	448m W	PEAT-P	PEAT	PEAT
24	476m W	RTDU-XVSZC	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	GRAVEL, SAND, SILT AND CLAY
25	477m E	GFIC-XVSZ	GLACIOFLUVIAL ICE CONTACT DEPOSITS	GRAVEL, SAND AND SILT

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	11

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**	**Moderate**	**Very Low**
On site	**Intergranular**	**Very High**	**Moderate**
On site	**Intergranular**	**Very High**	**Moderate**
On site	**Intergranular**	**Very High**	**Moderate**
On site	**Mixed**	**High**	**Low**
On site	**Mixed**	**High**	**Low**
On site	**Mixed**	**High**	**Low**
On site	**Mixed**	**High**	**Low**
On site	**Mixed**	**High**	**Low**
32m W	Mixed	High	Low
41m W	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.