Geo-Environmental

REMEDIATION STRATEGY AND VERIFICATION PLAN

for the land off

STATION ROAD,

COWFOLD, WEST SUSSEX,

RH13 8DA

on behalf of

DEVINE HOMES PLC



Report:	**REMEDIATION STRATEGY AND VERIFICATION PLAN**
Site:	**LAND OFF STATION ROAD, COWFOLD, WEST SUSSEX, RH13 8DA**
Client:	**DEVINE HOMES PLC**
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AMENDMENT RECORD

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1.0	06/10/2026	Initial issue	IA	GE	SA
2.0	07/10/2026	Updated Topsoil sampling frequency	IA	IA	GE
3.0	05/11/2026	Updated to address the Council Environmental Protection Officers comments	TG	LL	LL

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1.0 INTRODUCTION

1.1 General

Following a Phase I and II assessment of the site, Geo-Environmental Services Limited (Geo-Envivionmental) was appointed by Devine Homes PLC (the Client) to formulate a Remediation Strategy and Verification Plan in relation to the proposed development at Land off Station Road, Cowfold, West Sussex, RH13 8DA, herein referred to as 'the site' (see Figure 1).

The site has been the subject to a combined Phase I Desktop Study and Phase II investigations, as well as additional Phase II investigation by Geo-Environmental. The following reports should be read in conjunction with this report:

- Desk Study and Phase II Ground Appraisal Report for Devine Homes PLC – Report Reference GE19071-GAR-JUN21, Dated June 2021.
- Additional Sampling and Testing at Station Road, Cowfold Letter Report for Devine Homes PLC, Report Reference GE24016/LR/TG01/260818, Dated August 2026.

The remedial strategy and verification plan has been developed to reflect the findings from all phases of assessments undertaken on this site. Based on the findings of the investigations it was recommended that the Topsoil over the area of proposed allotments shall be removed and replaced with certified clean growing media.

1.2 Objectives

The Remediation Strategy and Verification Plan (RSVP) sets out the required remedial works to be undertaken on the subject site to support its development. The proposed development comprises the construction of 35 new dwellings including associated landscaping and parking, with provision of additional parking facilities associated with St Peters Church of England School and provision of public open space with 9 allotments.

A proposed development plan is included as Figure 2.

1.3 Planning Permission

It is understood that outline planning permission was granted for the site by Horsham District Council under Application Number DC/24/0982 dated 22nd July 2024. The Planning Permission conditions 9 and 24 relate to the remediation plan, implementation and verification.

"*9. Pre-Commencement Condition: No development shall commence until the following components of a scheme to deal with the risks associated with contamination, (including asbestos contamination), of the site be submitted to and approved, in writing, by the local planning authority:*
a) An intrusive site investigation scheme, based on the Phase 1 Desk Study to provide information for a detailed risk assessment to the degree and nature of the risk posed by any contamination to all receptors that may be affected, including those off site.
b) Full details of the remediation measures required and how they are to be undertaken based on the results of the intrusive site investigation and a verification plan providing details of what data will be collected in order to demonstrate that the remedial works are complete. The scheme shall be implemented as approved. Any changes to these components require the consent of the local planning authority.

Reason: As this matter is fundamental to ensure that no unacceptable risks are caused to humans, controlled waters or the wider environment during and following the development works and to ensure that any pollution is dealt with in accordance with Policies 24 and 33 of the Horsham District Planning Framework (2015)
24. Pre-Occupation Condition: The development hereby permitted shall not be occupied/brought into use until there has been submitted to the Local Planning Authority verification that the remediation scheme required and approved under the provisions of condition 10b [sic] has been implemented fully in accordance with the approved details (unless varied with the written agreement of the Local Planning Authority in advance of implementation). Thereafter the scheme shall be monitored and maintained in accordance with the scheme approved under condition 10b [sic], unless otherwise agreed in writing by the Local Planning Authority.

Reason: As this matter is fundamental to ensure that no unacceptable risks are caused to humans, controlled waters or the wider environment during and following the development works and to ensure that any pollution is dealt with in accordance with Policies 24 and 33 of the Horsham District Planning Framework (2015)."

2.0 PREVIOUS REPORT OVERVIEW (GE19071-GAR-JUN21)

This Remediation Strategy and Verification Plan (RSVP) has been developed from the findings of previous phases of assessment. A brief overview of salient findings of the reports is presented below. For further information, the individual reports should be referred to directly.

BACKGROUND (Desk Study)

2.1 Site Location and Description

The overall site extended to c.5.6Ha and was located at NGR 520960, 122580.

During the site walkover (June 2021), the site comprised an approximately rectangular/triangular plot of land, which was generally flat and level. The site comprised two fields separated by a belt of woodland.

The surrounding area comprised St Peters C of E Primary School to the east with residential properties beyond and agricultural fields to the north, south and west. Access was gained to the north of the site from Station Road.

2.2 Anticipated Geology

British Geological Survey geological mapping indicated the geology of the site to comprise the Weald Clay Formation with the Horsham Stone Member indicated beneath the northern side of the site.

The **Weald Clay Formation** consists of dark grey thinly-bedded mudstone (shales) and mudstones with subordinate siltstones, fine to medium grained sandstones, including calcareous sandstone, shelly limestones and clay ironstones.

The **Horsham Stone Member** consists of sandstone, calcareous, generally fine-grained, micaceous, locally well laminated, pale grey to greenish/olive grey. Contains clayey parting and lignite fragments and rootlet traces.

2.3 Hydrogeology

With reference to information provided by the Environment Agency, the underlying the Horsham member was indicated to be classified as a Secondary 'A' Aquifer, the Weald Clay was indicated to be classified as Unproductive Strata.

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

Unproductive Strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. The site was indicated to be outside any source protection zones. Groundwater vulnerability mapping referred to the superficial aquifer as a high vulnerability aquifer to a pollutant discharged at ground level.

2.4 Hydrology

The nearest surface feature was identified onsite, this is believed to be from mapping a pond in the woodland on the southern part of the site. Two pollution incidents to controlled waters were identified within a radius of 500m of the site:

- 131 NE – Unknown Property, miscellaneous – natural, category 3 minor incident, 23/07/1994
- 393 S – Construction, oils – gas oil, category 3 minor incident, 01/12/1996.

The site was not located in an area designated at being at risk from flooding from rivers or seas without defences (zone 1). The northernmost portion of the site was indicated to be at a low risk of surface water flooding (30 year return).

The BGS Flood GFS Data indicated that the site had the potential for groundwater flooding to occur. It should be noted that the mapping is a "susceptibility set", it does not indicate hazard or risk, i.e. it does not provide any information on the depth to which groundwater flooding occurs or the likelihood of the occurrence of an event of a particular magnitude.

There were seven recorded licensed surface water abstractions or discharge consents to controlled waters within 500m of the site:

- 144m E – Sport and other property, discharge of other matter – swimming pool contents, revoked 01/07/1991
- 185m SE – Other property, sewage discharge – final/treatment effluent – not water company, revocation date not supplied.
- 248m SW – Domestic property, sewage discharge – final/treatment effluent – not water company, revocation date not supplied.
- 256 W – Domestic property, non water company (private) sewage, revocation date not supplied.
- 321 S – Domestic property, sewage discharge – final/treatment effluent – not water company, revocation date not supplied.
- 444 SE – Domestic property, sewage discharge – final/treatment effluent – not water company, revocation date not supplied.
- 467 SE – Domestic property (single) (Incl Farm House), sewage discharges – final treated effluent – not water company, freshwater stream/river.

There were no substantiated pollution incident register entries recorded within 500m of the site.

INTRUSIVE INVESTIGATION

2.5 Phase II (ref. GE19071-GAR-JUN21)

The investigation was carried out in April 2021, comprising 7No. dynamic sampler boreholes up to 4.0m bgl with 4No. installed with monitoring wells. Additionally, 12No. trial pits up to 3.0m bgl with 7No. trial pit soakage tests were undertaken. Gas and groundwater monitoring was carried out on the 7No. installed wells on 6No. visits between 20th April and 30th June 2021. The exploratory locations were positioned for site coverage.

Topsoil was encountered within all locations to depths of between 0.10m and 0.35m bgl and generally comprised brown clayey SAND with roots and rootlets. Underlying the Topsoil, the Weald Clay Formation was encountered within all locations to the maximum depth of investigation at 3.70m bgl. The Weald Clay Formation generally comprised firm to stiff mottled grey and yellow brown CLAY to depths of between 1.40m bgl and 2.70m bgl. This in turn was underlain by weathered SANDSTONE. The exploratory holes all refused within the sandstone.

Groundwater was not recorded during the investigation. Return monitoring visits were completed between April and June 2021 which recorded groundwater within the installed wells between 0.00m and 2.60m bgl.

Soakage testing was undertaken in 7No. trial pits to depths of between 2.10m bgl to 2.70m bgl with insufficient fall recorded in all exploratory locations. Based on the findings of the soakage testing an alternative form of stormwater drainage offsite and attenuation was recommended.

During the 6No. ground gas monitoring visits the maximum methane concentrations were 1.9%. Carbon dioxide concentrations were recorded between 0.0% and 4.8% with oxygen concentrations between 12.0% and 21.7%. Borehole gas flow was recorded as -0.7l/hr to 0.2l/hr and a maximum VOC concentration of 8.4ppm. Atmospheric pressure was recorded between 1005mb and 1016mb. Based on assessment of the data the site was classified as Characteristic Situation 1 (CS1).

No chemical exceedances with respect to residential end use with plant uptake scenario were encountered within the Topsoil and natural strata. No asbestos was detected and no exceedances for pesticides were recorded with all concentrations below the limit of detection. Remedial works were noted as unlikely to be required.

Further investigation was recommended for the school expansion site was recommended once plans were finalised. However, this area was subsequently proposed for school parking and 9No. allotments.

2.6 Additional Phase II (ref. GE24016/LR/TG01/260818)

The additional investigation was carried out in August 2026 comprising 7No. hand pits to 0.5m bgl, targeted within the proposed for public open space and allotments. At the time of the investigation, reptile fencing was installed across several sections of the site.

Ground conditions comprised Topsoil to between 0.25m to 0.36m bgl overlying Weald Clay Formation to the full depth of investigation. No visual or olfactory signs of contamination were observed. Rare anthropogenic inclusions were observed to comprise brick fragments and single glass fragments in each of TP2, TP3 and TP4. The strata that contained man-made inclusions were not logged as Made Ground due to the limited quantity of anthropogenic material encountered.

Representative samples of Topsoil and subsoil were obtained from all hand pits. Table 2.1 provides a summary of the samples scheduled for chemical testing. Soil samples were submitted to a UKAS accredited laboratory. All scheduled soil samples were analysed for a suite of commonly occurring brownfield contaminants including asbestos screening with the exception of TP1 at 0.10m bgl, which was scheduled for a metal's suite only.

The presence of a possible contaminant does not necessarily imply that a site or area is contaminated or that there is any unacceptable risk to human health. A Preliminary Quantitative Risk Assessment was undertaken in accordance with LCRM, in order to evaluate any unacceptable risks posed to human health with respect to the proposed development. It was noted that the assessment is protective of the chronic long-term effects of contaminants, which is also likely to be protective of any possible immediate acute effects.

A quantitative risk assessment was undertaken by comparing the results of the laboratory chemical testing of shallow soils against Soil Screening Values (SSV) generated using the Contaminated Land Exposure Assessment (CLEA) model v1.07 published by Atkins, or against the Category 4 Screening Levels (C4SLs) published by DEFRA. Although the C4SLs were released for Part 2A use, the associated policy companion document for the C4SLs indicated that they may also be used for planning. Although the C4SLs represent a marginally higher risk level than the SSACs (low risk rather than minimal risk) it is considered that the risk levels remain very low. Therefore, the final C4SLs are considered to be suitable to assess soils under the planning regime. Where the screening values have been exceeded, further statistical assessments were undertaken on the datasets. Benzo(a)pyrene was used in the assessment as a surrogate marker for Polycyclic aromatic hydrocarbons (PAH) contamination.

The laboratory results were compared individually against both the thresholds for a Public Open Space (Residential) and Allotments End Use (1% SOM).

Location	Material	Sample Depth (m bgl)
TP1	Topsoil	0.10
TP2	Topsoil	0.10
TP3	Topsoil	0.10
TP4	Topsoil	0.10
TP5	Topsoil	0.10
TP5	Weald Clay Formation	0.40
TP6	Topsoil	0.10
TP7	Topsoil	0.10
TP7	Weald Clay Formation	0.40

Table 2.1: Summary of Soil Samples (Report Ref: GE24016/LR/TG01/260818).

All samples submitted for asbestos screens were returned with no asbestos fibres identified.

No exceedances were identified against Public Open Space (Residential) threshold concentrations.

Hand pit locations TP2, TP3 and TP7 were excavated over proposed Allotments. The results of the sample analysis were compared to Allotments End Use (1% SOM) screening criteria, samples which exceeded the criteria are summarised in Table 2.2.

Determinand	Allotments End Use (1% SOM) Criteria (mg/kg)	Location	Depth (m bgl)	Recorded Concentration (mg/kg)	Geology
Barium	18.1	TP2	0.10	160	Topsoil
		TP3	0.10	350*	Topsoil
		TP7	0.10	150	Topsoil
		TP7	0.40	74	Weald Clay Formation
Lead	79.1	TP2	0.10	200	Topsoil
		TP3	0.10	320	Topsoil
		TP7	0.10	270	Topsoil
Benzo(a)pyrene	5.72	TP2	0.10	7.8	Topsoil

NOTE: *UKSO UK Soil Observatory background for Barium (269.84mg/kg) exceeded.

Table 2.2: Chemical Exceedances Summary (Allotments End Use (1% SOM)) (Report Ref: GE24016/LR/TG01/260818)

The exceedance for Barium recorded within TP3 at 0.10mbgl and the exceedance for Benzo(a)pyrene within TP2 at 0.10mbgl were identified by the Grubb's Test as an outliers. However, the description of the soil at the TP2 and TP3 were similar to that found in the other positions for the Topsoil on-site and as such there was no justification for removing the samples from the datasets and treating the locations as 'hot-spots'.

Statistical analysis of the data set was undertaken in accordance with guidance contained in the CIEH/CL:AIRE report 'Comparing Soil Contamination Data with a Critical Concentration' (May 2008). If the contamination status of the soils is considered in a planning context, the null hypothesis tested by the analysis is whether the true mean concentration is equal to or greater than the critical concentration for a given determinand, with the critical concentration being the relevant SSAC or GAC (the soil screening value) for that determinand in the context of the

intended end use of the site. If the analysis shows that the true mean concentration is less than the critical concentration the null hypothesis can be rejected. The guidance recommends that for the null hypothesis to be rejected the analysis should show that there is a 95% (or higher) likelihood that the true mean concentration is below the critical concentration. Where this is the case the site is considered to be acceptable for the planned end use without the requirement for remediation.

A statistical assessment was undertaken for Barium, Lead and Bezo(a)pyrene. Table 2.3 summarises the findings of the statistical assessment.

Determinand	Sample Mean (mg/kg)	Allotments End Use (1% SOM) Screening Value (mg/kg)	Upper Confidence Limit (mg/kg)	Evidence Level (%)
Barium	129.44	18.1	258.29	0
Lead	118.22	79.1	284.87	0
Benzo(a)pyrene	1.76	5.72	6.15	94

Table 2.3: Summary of Statistical Analysis (Allotments End Use (1% SOM)) (Report Ref: GE24016/LR/TG01/260818).

The statistical assessment showed that there was a 0% likelihood that the true mean concentration of Barium and Lead were below the soil screening values for an Allotment end use.

The statistical assessment showed that there was a 94% likelihood that the true mean concentration of Benzo(a)pyrene was below the soil screening values for an Allotment end use.

As part of the assessment of reported barium concentrations, the UK Soil Observatory natural background map was reviewed, and this indicated natural background concentrations of barium within the subject site to be 269.84mg/kg. Given the reported concentrations of barium in the Topsoil and underlying natural soils (Weald Clay Formation) were in the range 74-360mg/kg, it is considered that the concentrations detected are not indicative of gross contamination which represent a specific risk of harm to end users or would warrant remedial intervention in regards to Barium. Table 2.4 provides a summary of the findings of the statistical assessment.

Determinand	Sample Mean (mg/kg)	UK Soil Observatory Background Value (mg/kg)	Upper Confidence Limit (mg/kg)	Evidence Level (%)
Barium	129.44	239.84	258.29	96

Table 2.4: Summary of Statistical Analysis - UK Soil Observatory (Allotments End Use (1% SOM)) (Report Ref: GE24016/LR/TG01/260818).

The statistical assessment showed that there was a 96% likelihood that the true mean concentration of Barium was below the indicated natural background concentrations within the subject site. The encountered Topsoil and subsoil were considered to be acceptable for the planned end use without the requirement for remediation regarding Barium.

However, based on the Topsoil test results, remedial measures were considered necessary over the area of proposed Allotments for the protection of end-users human health in regard to Lead and Benzo(a)pyrene.

British Standard BS3882:2015 Specification for Topsoil and requirements for use provides assessment criteria for a number of potentially phytotoxic contaminants in terms of new planting.

The results of the chemical analysis for determinants known to pose a potential phytotoxic risk to plant growth are summarised in Table 2.5, together with the respective adopted Generic Assessment Criteria (GAC) for plant growth. The compliance criteria set out in BS3882:2015 are pH dependent and thus the GAC used relate to the pH range measured on samples recovered from the site.

Determinand	Phytotoxicity GAC (mg/kg)			GAC Exceedances
	pH <6.0	pH 6.0-7.0	pH >7.0	
Zinc	200	200	300	**Yes**
Copper	100	135	200	No
Nickel	60	75	110	No

Table 2.5: Summary of Plant Phytotoxicity Assessment. (Report Ref: GE24016/LR/TG01/260818).

One sample was noted as exceeding the criteria and is summarised in Table 2.6.

Determinand	Allotments End Use (1% SOM) Criteria (mg/kg)	Location	Depth (m bgl)	Recorded Concentration (mg/kg)	Geology
Zinc	300	TP3	0.10	350	Topsoil

Table 2.6: Location of Plant Phytotoxicity Exceedance (Report Ref: GE24016/LR/TG01/260818).

The phytotoxicity assessment identified one exceedance of the relevant Zinc threshold within TP3 at 0.10mbgl within the Topsoil. Remedial measures to protect proposed soft landscaping from soils over TP3 would be considered necessary. However, the proposed Topsoil replacement with certified clean growing media in this location would effectively protect soft landscaping, as such it was recommended no further remedial measures were necessary.

The report (GE24016/LR/TG01/260818) recommended that the Topsoil over the area of proposed allotments shall be removed and replaced with certified clean growing media. It was recommended following Topsoil replacement, the area of proposed allotments shall be subject to an inspection pit to record construction makeup and obtain a Topsoil sample.

It was noted that the removed Topsoil would be suitable for re-use on site within areas of Public Open Space (residential), with the exception of the Topsoil at TP3 due to an elevated Zinc concentration identified within the phytotoxicity assessment. The Topsoil at TP3 shall be removed from site as a 'hot-spot'. The in-situ subsoil (Weald Clay Formation) was assessed as being chemically suitable for the sites intended use.

3.0 REMEDIATION REQUIREMENTS

The following remediation measure are considered to be required in relation to the proposed development, taking account of the conceptual site model and source pathway receptor linkages identified and risk assessment for the site.

3.1 Conceptual Site Model

Source (Contaminants)	Pathways	Receptors	Contaminant Linkage	Comments
Topsoil within proposed Allotment End Use (Lead, Zinc, Benzo(a)pyrene)	**Human Health** Ingestion, Absorption via Dermal Contact, Inhalation.	**Human Receptors** Construction workers, End users, visitors, neighbours/public, maintenance workers.	**Yes**	Contaminant linkage is plausible as material can be readily exposed at the surface where allotment end use is proposed. It would be recommended to removed and replaced with certified clean growing media within the area of proposed allotments.

Table 3.1. Conceptual Site Model

3.2 Remediation Design

Exceedances were noted within the Topsoil associated with the proposed allotments for Lead and Benzo(a)pyrene when compared to Allotments End Use (1% SOM). The phytotoxicity assessment identified one exceedance of the relevant Zinc threshold within the Topsoil associated with the proposed allotments. Remediation will be required within the proposed allotments.

Geo-Environmental have assessed several available in-situ and ex-situ remediation techniques and their potential application to the impacted soils at the site. The assessment is summarised in the Table 3.2 below.

Treatment Option	Detected Contaminants	Comments
	Lead, Zinc, Benzo(a)pyrene	
Bioremediation	No	Not suitable for Lead and Zinc exceedances.
Chemical Oxidation	No	Not suitable for Lead and Zinc exceedances.
Topsoil Reuse	Yes	Suitable for all Topsoil, excluding TP3, however the removed Topsoil from the proposed allotments would only be suitable for re-use on site within areas of Public Open Space (residential). Topsoil over TP3 shall be removed from site.
Capping	No	Not suitable due to proposed development levels.

Table 3.2. Remediation Options Appraisal.

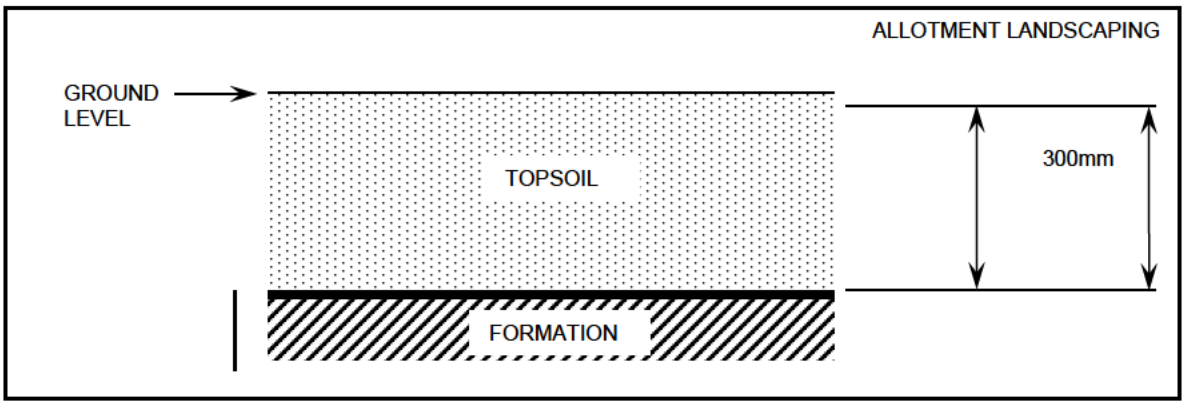
Following the remedial options appraisal, Geo-Environmental considers that suitable options exist for the remediation of impacted soils on-site.

The following shall be undertaken:

- Removal of Topsoil within the proposed allotments. The anticipated cut based on encountered ground conditions is up to 360mm or to final levels if lower;
- The reuse of removed Topsoil within areas of Public Open Space (residential), excluding the Topsoil over TP3 which shall be removed from site as a 'hot-spot'. The 'hot-spot' excavation shall be centred over TP3 and comprise the full depth of Topsoil and incorporate an area of 5m x 5m, leaving the Weald Clay Formation exposed at the surface. The arisings from the 'hot-spot' excavation shall be removed from site.
- The Weald Clay Formation within the proposed allotments has been found to be chemically suitable for the intended end-use as allotments. A validation visit shall be completed by an Engineer following the removal of the Topsoil within the proposed allotments. The Engineer shall visually inspect, photograph and record the ground conditions across the exposed formation to ensure all Topsoil has been successfully removed.
- Once the initial validation visit has been completed and the Topsoil is recorded as being successfully removed, the placement of certified clean growing media to a minimum depth to that of the removed Topsoil can be completed.
- Verification of the replaced Topsoil to be undertaken by an Engineer.

3.3 Replacement Topsoil

Figure 3 contains a plan showing the area requiring remediation works and replacement Topsoil. The proposed allotment area shall comprise a total 'clean' soil cover of a minimum of 300mm to replace the removed Topsoil.



Appropriate site won and/or imported Topsoil is required to be both physically and chemically suitable.

Following the installation of the Topsoil in the allotment area an Engineer will attend site to verify the placement and thickness of the Topsoil. This would comprise a series of hand pits to verify the Topsoil thickness and validation sampling to allow for analysis to show the suitability of clean Topsoil.

Topsoil samples must be obtained at a frequency of 2 per allotment, within placed proposed allotments to ensure conformance with the remedial criteria outlined within Table 3.3 and 3.4. The Topsoil must chemically suitable and also be free from anthropogenic inclusions (brick, concrete, glass, ceramics, timber, metal, plastics etc.) and display no visual or olfactory signs of contamination. Photographic evidence will be recorded during the validation visits and will include a picture of the hand pit with a measuring tape in place to confirm depth.

If the material placed is found to be chemically or physically unsuitable it shall be excavated, excluded from use, alternative material placed, and the area re-validated.

Determinand	Remedial Criteria (End Use: Allotments End Use (1% SOM)) (mg/kg)
Heavy Metals	
Arsenic	49
Barium	269[$]
Beryllium	17.8
Cadmium	3.9
Chromium (III)	12600
Copper	1450
Lead	79.1
Mercury (inorganic)	94.1
Nickel	67.3
Selenium	143
Vanadium	33.2
Zinc	5230
Polyaromatic Hydrocarbons	
Naphthalene	27.4
Acenaphthene	680
Fluorene	796
Pyrene	679
Benzo(a)pyrene	5.72
Petroleum Hydrocarbons	
Aliphatics >C5-C6	6110
Aliphatics >C6-C8	18300
Aliphatics >C8-C10	2390
Aliphatics >C10-C12	8960
Aliphatics >C12-C16	16300
Aliphatics >C16-C35	47700
Aromatics >C5-C7	0.176
Aromatics >C7-C8	146
Aromatics >C8-C10	73.9
Aromatics >C10-C12	95.9
Aromatics >C12-C16	176
Aromatics >C16-C21	321
Aromatics >C21-35	1570
Other	
Asbestos	No Asbestos Detected

[$] UKSO UK Soil Observatory background for Barium

Table 3.3. Remediation Criteria Based on Atkins ATIRKS Soil SSVs – Allotments End Use (1% SOM).

British Standard BS3882:2015 Specification for Topsoil and requirements for use provide assessment criteria for a number of potentially phytotoxic contaminants in terms of new planting as outlined in Table 3.4.

Determinand	Phytotoxicity GAC (mg/kg)		
	pH <6.0	pH 6.0-7.0	pH >7.0
Zinc	200	200	300
Copper	100	135	200
Nickel	60	75	110

Table 3.4: Remediation Criteria Based on Plant Phytotoxicity.

The Topsoil used within the cover systems must have no anthropogenic material present, contain no signs of visual or olfactory contamination. In addition, chemical testing shall prove that the measured concentrations of all determinands are below the threshold criteria as indicated in Table 3.3 and Table 3.4 above.

4.0 CONTROLS

It is the responsibility of the Client, Principal Contractor and their appointed sub-contractors to implement and manage safe systems of work, prepare their own risk assessments in accordance with Health and Safety legislation in order to protect persons in their employment, as well as mitigate the risk of harm to others due to works in their control. Special consideration shall be given to the provisions of the Construction (Design & Management) Regulations 2015, Health and Safety at Work Act and the Control of Substances Hazardous to Human Health regulations to protect the safety of persons in their employment. Additional guidance can be sought from the CIRIA publications entitled "A Guide for Safe Working on Contaminated Sites" and “Environmental Good Practice on site guide (fourth edition)”.

In addition to the safe systems of works to be implemented alongside appropriate risk assessments and method statements, all site personnel shall benefit from on-site hygiene facilities including wash area, toilets and drying room.

Separate canteen area and welfare facilities shall be provided. All eating and drinking shall be restricted to the canteen area and only once site personnel have removed outer PPE and washed exposed skin.

In the event of dry spells, or where the exposed surface becomes dry, regular damping down (not flooding) of the surface of the site will be required to prevent the release of soil dust which could impact on site operatives or migrate off-site, thereby mitigating both off-site exposure and nuisance for neighbours.

5.0 WASTE

Waste may be defined as any substance or object in Annex 1 of the Waste Framework Directive which the holder discards, intends to discard, or is required to discard. The holder of waste is anyone in possession of waste or generates it and therefore both the contractor and ultimately the developer are responsible for safe disposal of waste.

All surplus materials generated during the remediation works at the site shall be accurately characterised with regards to current and applicable waste legislation and treated/disposed of at suitably licenced facilities.

All waste materials removed from the site shall be accompanied by suitable 'Duty of Care' or 'Consignment Note' dependant on the nature of the waste being transported.

All waste removed from site shall be undertaken by licenced waste carriers.

If Hazardous waste is generated, the site shall register with the EA as a Hazardous Waste Producer and all waste shall be accompanied by a Hazardous Waste Consignment Note in accordance with the Hazardous Waste Regulations.

Due to a Zinc phytotoxicity exceedance, identified within TP3 at 0.10mbgl, impacted Topsoil will be required to be removed from site in this location as an isolated 'hot-spot'. The 'hot-spot' excavation shall be centred over TP3 and comprise the full depth of Topsoil and incorporate an area of 5m x 5m, leaving the Weald Clay Formation exposed at the surface.

The result for the sample TP3 at 0.10mbgl was assessed using HazWasteOnline™. The assessment indicated that the sample would be classified as non-hazardous waste and assigned the List of Waste (LoW) Code 17 05 04. Waste Acceptance Criteria (WAC) would be required to confirm if the material could be disposed of as inert waste. The results are summarised in Table 5.1.

ID & Depth (m bgl)	Soil Description	Waste Classification (LoW Code)
TP3 0.10	Topsoil	Non Hazardous (17 05 04)

Table 5.1: Waste Soils Assessment Summary.

Copies of the Duty of Care (Waste Transfer Notes) notes shall be included within the Verification Report.

6.0 DISCOVERY STRATEGY

Whilst intrusive investigations have been undertaken on the site, it remains possible that unexpected ground and/or groundwater conditions may be encountered during the process of construction.

Should previously undiscovered contamination or unforeseen ground conditions be encountered during construction by the ground workers, this must be reported to the Site Manager immediately in order that the Consultant is notified. Where deemed necessary, the Consultant shall attend the site to inspect the discovery and provide recommendations on the further actions required, if any. Where necessary the regulatory authority shall be informed. Post any additional investigation or laboratory testing the results and any proposed remedial measures shall be reported to the regulatory authority or other appropriate organisation for consent, before proceeding or implementing the remedial measures.

A copy of the discovery strategy must be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious, abnormal, unforeseen or contaminated ground and/or groundwater conditions they may encounter.

Depending on the type, nature and extent of any such 'discovery', it may be necessary to halt works in that location until such time as the assessment has been completed. This shall be reviewed on a 'discovery' specific basis and in conjunction with consultation with the client, other technical personnel and/or regulatory/approval organisations.

As a general guide, where such unexpected conditions are encountered the following approach is required as a minimum:

- All discoveries are to be reported to the Site Manager immediately and works at that location are to halt until further notice;
- The Site Manager is to report any such discoveries to the Client and the Consultant;
- Following notification from the Site Manager, the Consultant shall discuss the discovery with the Local Authority and/or other relevant parties and if considered necessary, arrange to meet on site to view the discovery;
- The Consultant shall attend the site to record the location, extent and nature of the discovery and implement an appropriate sampling and analysis regime, taking due account of the type and nature of the discovery, known and probable land uses in that area of the site;
- Where remedial action is required, regulatory consultation and approval will be sought;
- A record will be produced by the Consultant and held on site (with copies held by the Consultant, Client and Local Authority/other relevant organisation), detailing the discovery, assessment works undertaken, findings thereof, confirmation either of no action required or detailing the remedial action taken and validation thereof.

The process is shown below.

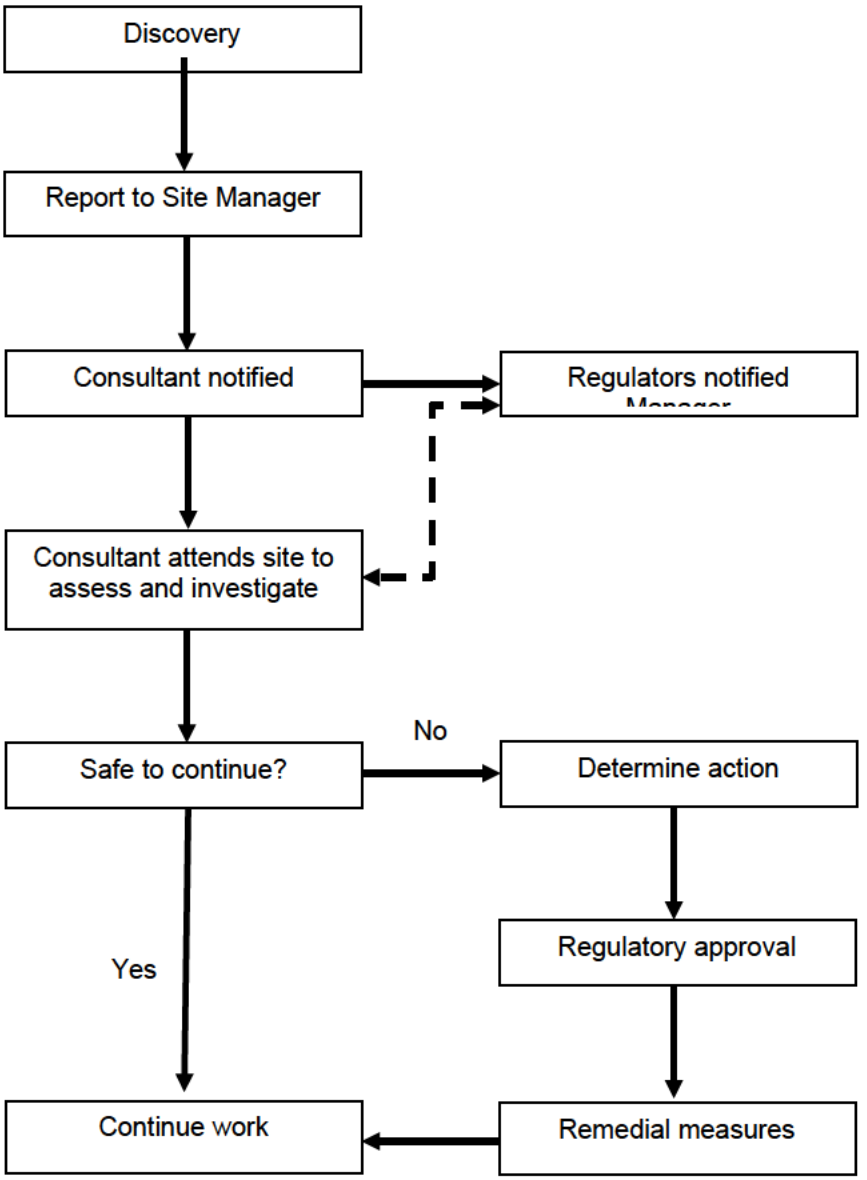


Chart 1 Discovery Strategy Process

A copy of this strategy shall be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious, previously undiscovered contamination or unforeseen ground conditions or contaminated materials they may encounter.

7.0 VERIFICATION

Verification is required to be undertaken throughout the course of the remediation works. The Verification Report will be submitted to the Client, NHBC and Local Authority for formal approval and Environment Agency if requested as part of any works completed in relation to controlled water or if required under the Definition of Waste Code of Practice.

The Verification Report will refer to the works as set out within this Remediation Strategy and Verification Plan (RSVP) and as required by any relevant planning/warranty conditions.

The Verification Report will include records from site inspections including:

- Visual inspection, photographs and record of ground conditions across the exposed formation following Topsoil removal across proposed allotments;
- Validation of depth and chemical suitability of placed Topsoil in installed cover systems, as detailed in Section 3.3;
- An audit trail for any imported Topsoil, including source, provenance, analytical results, placement location and thickness;
- Audit trail and waste transfer documentation of Topsoil removed over TP3 'hot-spot' and if any further unsuitable material is disposed from site;

A summary of verification proposals is presented in Table 7.1 below.

The Contractor will be required to deploy a competent person to manage the works and ensure that relevant records are kept and photographs taken in relation to the movement of materials around the site, disposal of any waste soils and pre-important compliance testing for any imported soils. In addition, the remedial works will be inspected and validated on behalf of the Client by Geo-Environmental in order to present independent verification. No liability will be accepted where validation of key stages of works has not been possible due to the client and/or groundworks contractor failing to provide sufficient notice to attend site, or where works have already been completed as a result when attending site for inspection.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
1.0 Verification General Principles	In areas shown on Figure 3. Allowance for a 300mm thick Topsoil layer over proposed allotments.	Construction	**Yes – See Below**	Details of construction program to be provided by client/contractor.
2.0 Removal of Unsuitable Topsoil	In areas shown on Figure 3 removal of unsuitable Topsoil in areas to allow for the installation of appropriate chemically and physically suitable Topsoil.	Construction	**Yes - 5 days' notice required**	RAMS Pack for works to be provided by groundworks/remediation contractor undertaking the works. The Weald Clay Formation within the proposed allotments has been found to be chemically suitable for the intended end-use as allotments. A validation visit shall be completed by an Engineer following the removal of the Topsoil within the proposed allotments. The Engineer shall visually inspect, photograph and record the ground conditions across the exposed formation to ensure all Topsoil has been successfully removed. Topsoil over TP3 shall be removed from site as a 'hot-spot', waste transfer documentation is to be presented to Geo-Environmental for inclusion within the Verification Report.
3.0 Imported/Placed Topsoil within Proposed Allotments	Topsoil to be placed at a minimum thickness of 300mm.	Construction	**Yes - 5 days' notice required**	Following the placement of Topsoil in areas of proposed allotments an Engineer will attend site to undertake a validation visit to verify the placement of the Topsoil. This would comprise a series of

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
	In areas shown on Figure 3 Topsoil to be placed at a minimum thickness of 300mm over proposed allotments.			hand pits to verify the thickness of Topsoil placed and verification sampling to allow for analysis to show the suitability of Topsoil materials based on the specified criteria. Samples from the areas of soft landscaping area are to ensure conformance with the remedial criteria outlined within Table 3.3 and 3.4. The Topsoil must be free from anthropogenic inclusions and display no visual or olfactory signs of contamination. Photographic evidence will be recorded during the validation visits and will include a picture of the hand pit with a measuring tape in place to confirm fill depth. If the material placed is found to be unsuitable it shall be excavated, excluded from use within the cover systems, alternative material placed and the area re-validated.
4.0 Waste Management	Waste soils arisings from remediation works will be disposed of appropriately with waste categorisation analysis and WAC testing. The results shall be presented to the landfill site prior to removal for confirmation of the classification.	Design and Construction	**No (unless further testing required where 5 days' notice required)**	Waste categorisation suite and WAC to be provided to receiving site. Waste transfer notes.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
	Waste tickets for the removal of arisings shall be compiled for submission as part of the Verification Report. The waste tickets will be required to demonstrate that the approximate amount of material being removed is equal to the summed volume on the waste tickets.			Copies of the Duty of Care (Waste Transfer Notes) notes shall be provided by the Earthworks Contractor and Client for inclusion within the Verification Report for the Topsoil removed over TP3 'Hot-spot'.

Table 7.1. Details of Required Verification.

8.0 CONDITIONS

The data collected from the previous investigations have been used to provide an interpretation of the geotechnical and/or environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained. Geo-Environmental takes no responsibility for conditions that either have not been revealed in the available records, or that occur between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. The absence of asbestos within soil samples analysed does not guarantee the absence of asbestos within buildings, within or bonded to concrete, as discrete burials, or within the soil mass elsewhere within a site. This report should not be taken as any guarantee that a site is free of hazardous or potentially contaminative materials.

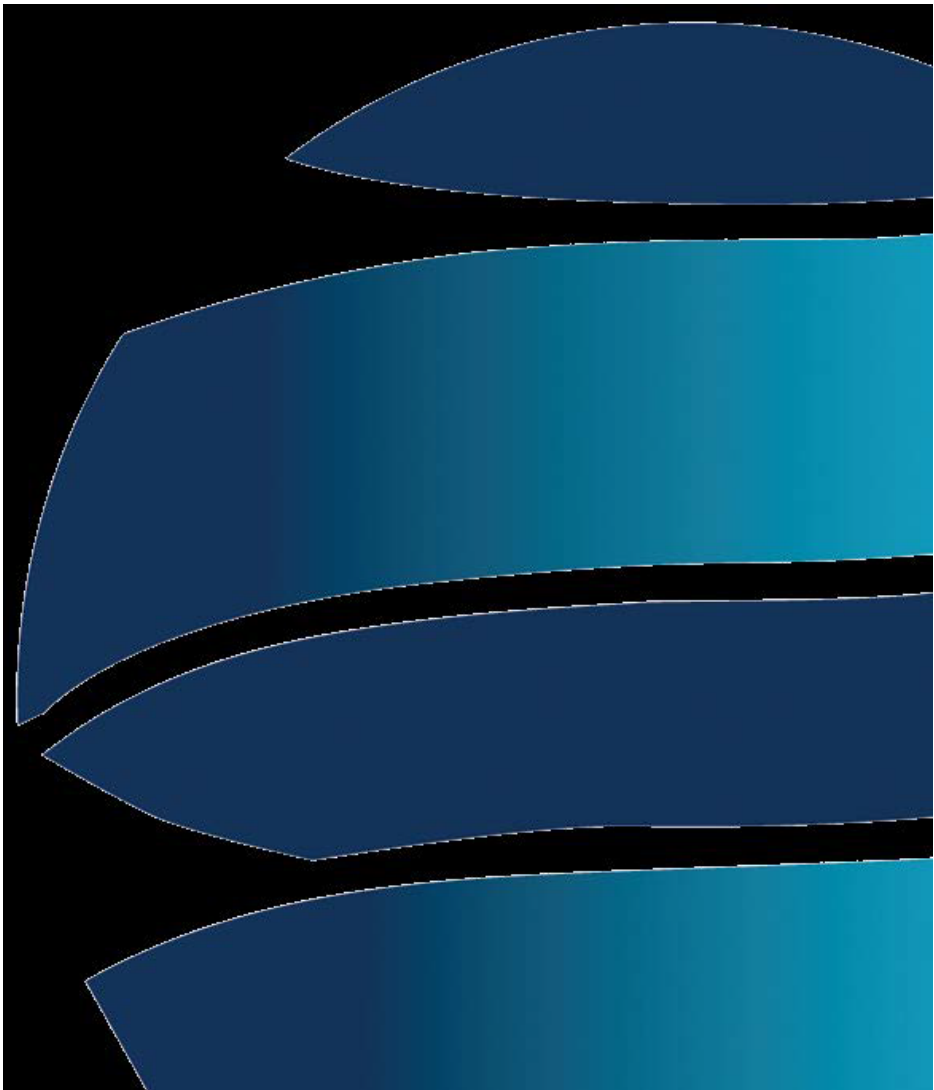
Information contained in this report is intended for the use of the Client and Geo-Environmental can take no responsibility for the use of this information by any party for uses other than that described in this report. Geo-Environmental makes no warranty or representation whatsoever express or implied with respect to the use of this information by any third party. Geo-Environmental does not indemnify the Client or any third parties against any dispute or claim arising from any finding or other result of this investigation report or any consequential losses.

Assessment criteria or other parameters developed for the evaluation of contamination on this site are based on a number of assumptions regarding exposure and toxicology. Exposure to contaminants and levels of adverse effects may therefore vary. Whilst reasonable care and expertise has been employed in the development of such criteria, no liability is accepted in this respect. Other criteria or guidance on the development of assessment criteria may be published in the future and no liability is accepted in this respect.

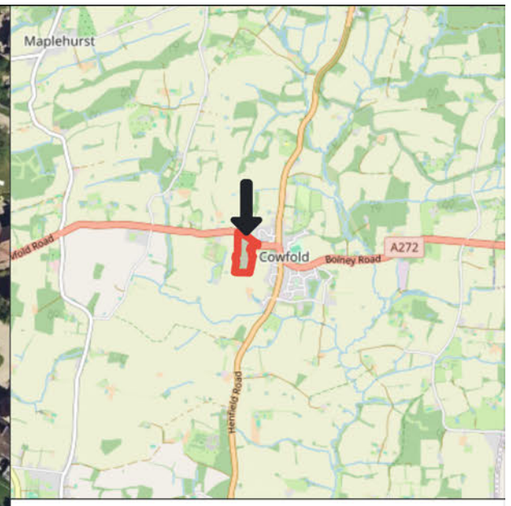
Please note that Geo-Environmental are only able to validate remediation works where they are invited/instructed to attend site at key stages and with appropriate notice of progress as in relation to those stages as detailed within Table 7.1. Geo-Environmental cannot be held responsible to failure to validate key stages where they have not been instructed to attend site, or for retrospective validation, where it is not possible to see the key stages required for the validation works.

This report remains the property of Geo-Environmental and the Client has no rights to, or reliance upon this document or supporting documents until such time as payment has been received in full for all invoices for works undertaken in connection with this report.

FIGURES







Legend

- Site Boundary

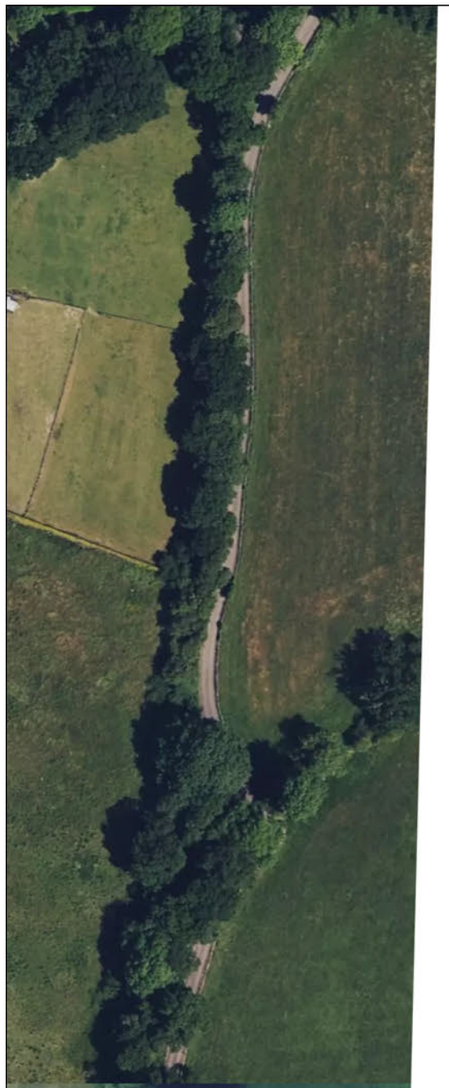
0 25 m 50 m

© Mapbox

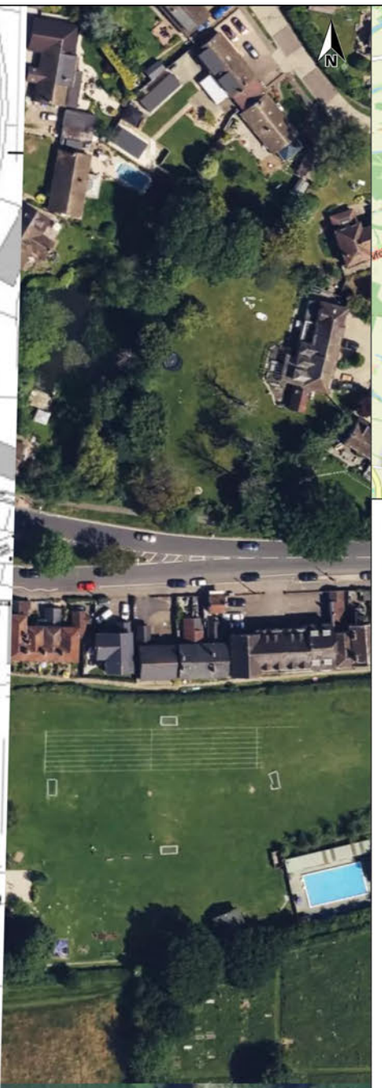
Geo-Environmental

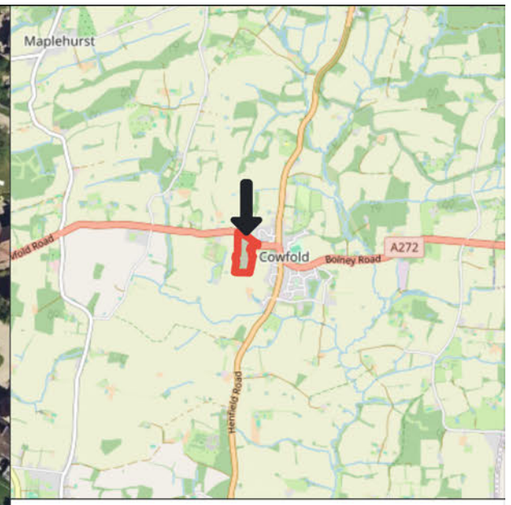
Produced by **Datanest.earth**

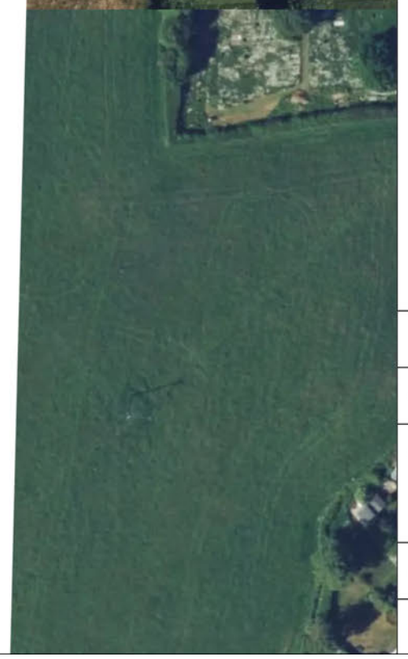
Title: Site Location Plan		
Client: Devine Homes PLC		Size: A3
Project: Land off Station Road	Drawn: IA	Figure No.: 1
Date: 06-10-2026	Checked: GE	
Proj No: GE24016	Scale: 1:1450	Version: v1











Legend

- Site Boundary
- Drawing Ref: 18071-P101-Z

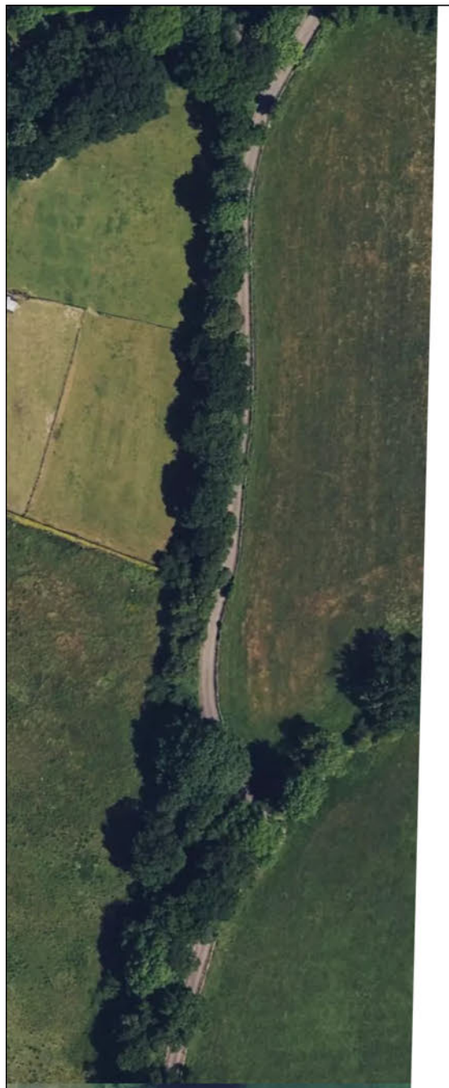
0 25 m 50 m

© Mapbox

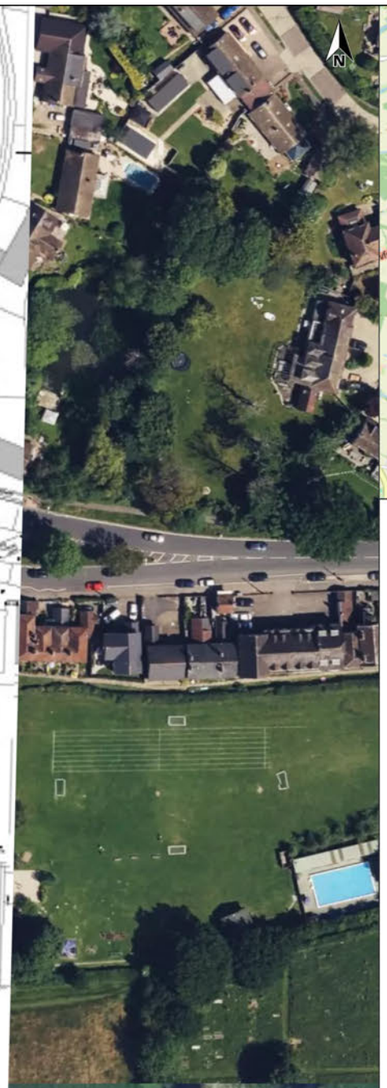
Geo-Environmental

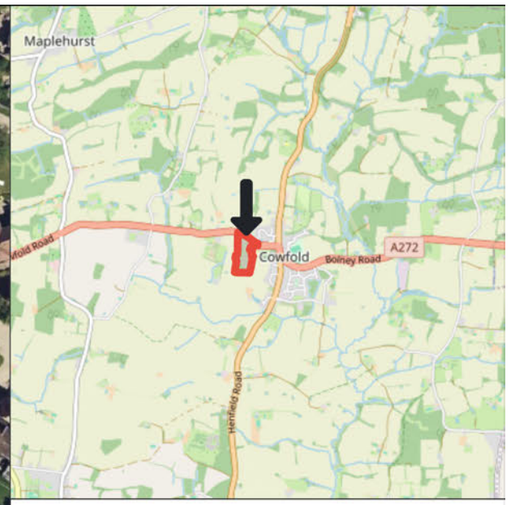
Produced by **Datanest.earth**

Title: Proposed Development Plan		
Client: Devine Homes PLC		Size: A3
Project: Land off Station Road	Drawn: IA	Figure No.: 2
Date: 06-10-2026	Checked: GE	
Proj No: GE24016	Scale: 1:1450	Version: v1









Legend

- Site Boundary
- Proposed Allotments
- Drawing Ref: 18071-P101-Z

0 25 m 50 m

© Mapbox

Geo-Environmental

Produced by **Datanest.earth**

Title: Clean Cover System Location Plan		
Client: Devine Homes PLC		Size: A3
Project: Land off Station Road	Drawn: IA	Figure No.: 3
Date: 06-10-2026	Checked: GE	
Proj No: GE24016	Scale: 1:1450	Version: v1