

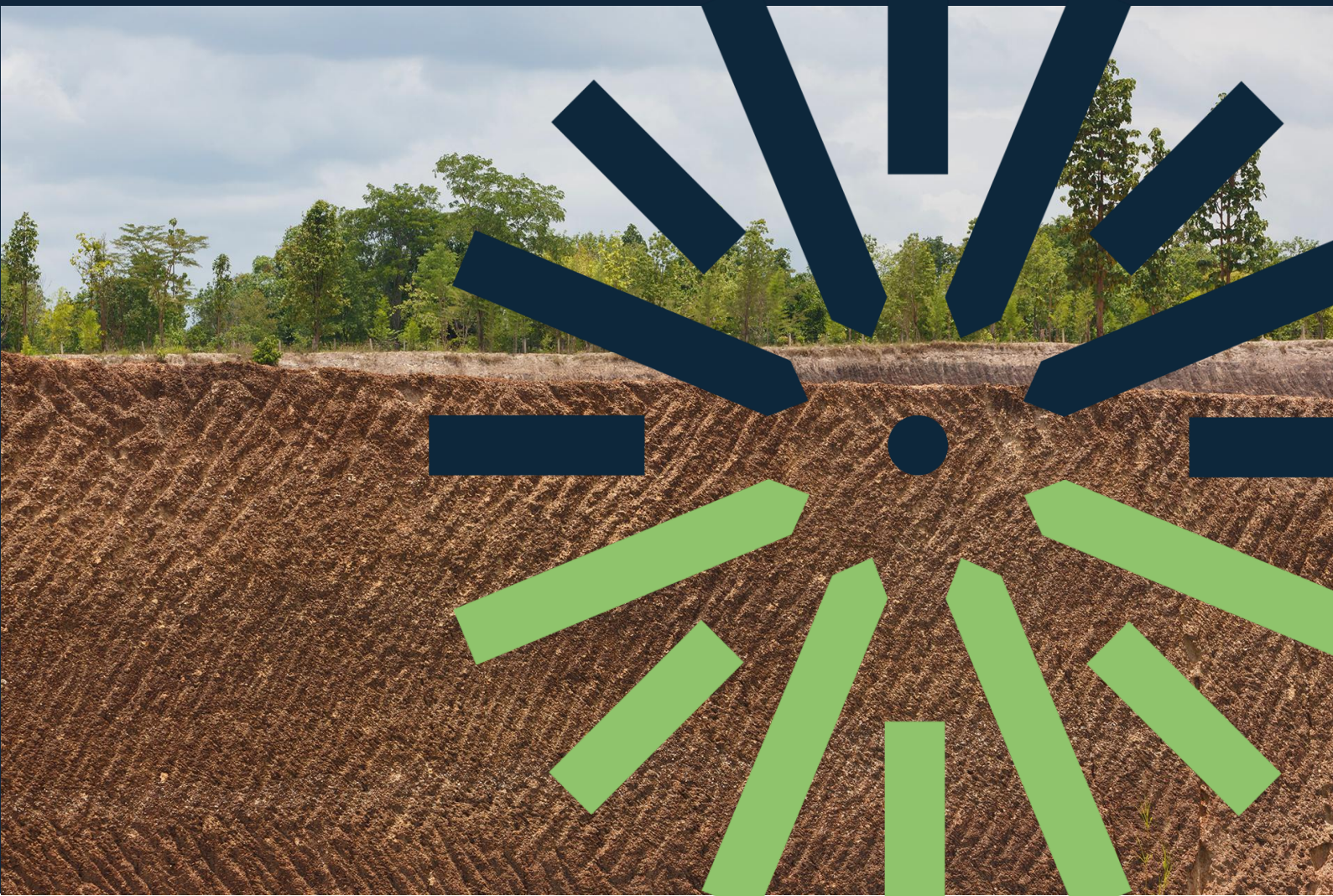


GROUND RISK

Remediation Strategy

Tiddlywinks, Croft Lane, Bury

September 2025
Report Ref: GR000226-RS-1.0





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1. Introduction

Ground Risk Ltd was commissioned by Tiddlywinks Nursery Group to complete a Remediation Strategy for a site referred to as Croft Tiddlywinks (the "Site"), located at land adjacent to 129 Croft Lane, Bury, BL9 8QH. It is understood that the development proposal includes the construction of a two-storey children's nursery. Plans include external areas of soft landscaping to be used as play areas and paved areas for vehicle parking.

This report has been produced in order to outline a detailed remediation strategy and method statement for the remediation works so that the site can be made suitable for its intended use by removing any unacceptable risks to human health and the natural environment. This report includes details on the anticipated works and provides method statements for these works in order to achieve the proposed remedial objectives/criteria presented through the report. Details of site management procedures including environmental monitoring and mitigation and the contractor responsibilities are given, as well as details of what should be included as part of the required verification report to verify the remedial works outlined in this document.

The Phase 2 Geo-environmental Site Assessment report previously produced by EnviroSolution Ltd (ref: CL102, Rev. 3., Dated: May 2023) demonstrated that Made Ground soils comprising Brick Fill Made Ground pose a potentially unacceptable risk to human health in respect to lead and PAHs.

This report outlines the Remedial Options Appraisal, Remediation Strategy and Verification Plan for the above-mentioned pollutant linkages.

The comments and opinions presented in this report are based on the desk study and ground conditions encountered during an intrusive investigation performed by EnviroSolution Ltd. There may be other conditions prevailing on the Site which have not been revealed by this investigation and which have not been taken into account by this report. Responsibility cannot be accepted for any conditions not revealed by this investigation. Any diagram or opinion on the possible configuration of the findings is conjectural and given for guidance only. Confirmation of intermediate ground conditions should be undertaken if deemed necessary.

This report has been prepared for the sole use of Tiddlywinks Nursery Group. No other third party may rely upon or reproduce the contents of this report without the written approval of Ground Risk. If any unauthorised third party comes into possession of this report, they rely on it entirely at their own risk and the authors do not owe them any Duty of Care or Skill.

The conclusions and recommendations in this report are considered reasonable based on the findings of the 3rd Party site investigation; however, these cannot be guaranteed to gain regulatory approval and, therefore, the report should be passed to the appropriate regulatory authorities and/or other organisations for their comment and approval prior to undertaking any remedial works.

2. Site Details and Description

2.1. Site Details

Table 2-1 Site Details

Site name	Croft Tiddlywinks, Bury
Site address	Land adjacent to 129 Croft Lane, Bury, BL9 8QH
National Grid Reference	381267, 408574
Site Area	0.18ha
Location description	The site is located approximately 3km south of Bury Town Centre, within an area of residential, commercial and light industrial land use. The site location is shown on drawing number GR000226-RS-01 within Appendix A.
Site shape	The site comprises an irregularly shaped parcel of land.
Current land uses	The site is currently vacant, covered in macadam hardstanding with discreet areas of soft landscaping around the perimeter, and is utilised as vehicle parking for an adjacent Public House and a commercial Car Park.
Surrounding land uses	The site is located within an area comprising residential, commercial and light industrial land use. The River Roch is located c.50m west of the site.

2.2. Site Location

Figure 2-1 Site Location





3. Conceptual Site Model

The following conceptual site model is based on the findings of the Phase 2 Geo-environmental Site Assessment report previously produced by EnviroSolution Ltd (ref: CL102, Rev. 3, Dated: May 2023). Additional comments have been added regarding the type of Made Ground in which the contaminant impacts were reported to better target the remediation measures.

3.1. General Understanding of the Ground Model

- It is understood that the development proposal includes the construction of a two-storey children's nursery. Plans include external areas of soft landscaping to be used as play areas and paved areas for vehicle parking.
- The site is reported to have seen little redevelopment over time, appearing as a vacant plot of land on the earliest available OS Mapping (1851). No significant changes were reported over the sites history until c. 1957, where the site was relevelled and utilised as a Car Park up until the present day.
- The surrounding area has seen multiple phases of redevelopment with residential, commercial and industrial land uses, including a Bleach Works, Dye Works, Electrical Substation, Glue and Gelatine Works, Engineering Works/ Warehouses and a nearby infilled reservoir.
- Made Ground beneath the site comprises up to 3.60m of Made Ground comprising 'Brick Fill' reported as dark grey granular sandy gravelly fill with brick, plastic, sandstone blocks and roots, and 'Reworked Clay Fill', reported as firm grey brown laminated clay fill.
- Superficial Soils comprising soft to firm grey and brown silty clay or clayey silt Alluvium were encountered within all exploratory locations underlying Made Ground to proven depths of between 9.50m and 10.20m bgl, which in turn overlie Diamicton (Glacial Till) recovered as stiff becoming very stiff brown slightly gravelly clay.
- Bedrock was not encountered during investigation works by EnviroSolution.
- The results of chemical testing were analysed by EnviroSolution and screened against a Residential with Plant Uptake end use, with reported concentrations of lead, benzo(a)anthracene, chrysene, benzo(b)fluoranthene and benzo(a)pyrene within Brick Fill Made Ground soils reported in excess of the relevant GAC for human health with regards to the intended land use. EnviroSolution screened the results of chemical testing against LQM S4ULs, Ground Risk have further screened the results against CL:AIRE C4SLs, using the Benzo(a)pyrene as a surrogate marker approach for PAHs, the results of which further demonstrated that Brick Fill Made Ground soils are contaminated with respect to PAHs for the intended land use.
- EnviroSolution reported that the site does not lie within a Source Protection Zone, there are no active abstractions within the vicinity of the site, and that given the cohesive nature of the superficial soils, minor exceedances of copper, nickel and zinc do not pose a risk to Controlled Waters.
- EnviroSolution determined that the proposed development is not considered to be at risk from hazardous ground gasses and no protection measures were deemed necessary.



3.1.1. Potential Sources

Human Health: Elevated concentrations of lead, benzo(a)anthracene, chrysene, benzo(b)fluoranthene and benzo(a)pyrene within Brick Fill Made Ground Soils.

3.1.2. Potential Pathways

- Dermal contact, ingestion and inhalation of contaminants.
- Contaminated dust migration during construction.

3.1.3. Potential Receptors

- Future and adjacent users of the Site.

3.2. Uncertainties

The following uncertainties exist in the conceptual model.

- Any potential sources of contamination not encountered during the site investigation works.
- Any unrecorded tanks not identified during previous investigation.
- Any unrecorded geological features.
- Any unrecorded pollution events during the Site's history.



Table 3-1 Risk Assessment of Potential Pollutant Linkages.

Potential Source	Potential Pollutant Linkage		Potential Severity	Probability of Risk	Risk Rating
	Potential Pathway	Potential Receptor			
Elevated concentrations of lead, benzo(a)anthracene, chrysene, benzo(b)fluoranthene and benzo(a)pyrene in Brick Fill Made Ground Soils.	Dermal contact, ingestion and inhalation of contaminants on site.	Future site users	Medium	Low Likelihood	Moderate/Low Risk
		Current site users	Mild	Unlikely	Negligible Risk
	Contaminated dust migration during construction.	Adjacent site users	Mild	Unlikely	Negligible Risk
		Current site users	Mild	Unlikely	Negligible Risk



4. Remediation Strategy

Made Ground soils comprising 'Brick Fill' pose a potentially unacceptable risk to human health in respect to lead, benzo(a)anthracene, chrysene, benzo(b)fluoranthene and benzo(a)pyrene.

Remediation will be undertaken such that the site is suitable for its intended use as a Children's Nursery (Residential with Plant Uptake). The remediation will be achieved through techniques outlined in the following sections.

A verification report will provide a record of the remediation activities undertaken at the site. This will include a summary of the data collected in line with the verification plan to support compliance with remediation objectives and criteria. It will also include descriptions of the works with associated 'as built' drawings and details of any unforeseen conditions encountered during the works and how they were dealt with.

4.1. Options Appraisal

A remedial approach will be required to address the contamination within Made Ground soils, it is considered that the most cost-effective way of dealing with it is either:

1. **Wholesale removal of Made Ground** - Pollutant linkage is broken, and site works can commence quickly. This may be readily implemented; however, it will have a negative environmental impact due to the requirement to send material to landfill which could otherwise be retained.
2. **A capping layer/ clean cover system in any soft landscaped areas located within the vicinity of the impacted soils** - Could be readily implemented at the Site and would only be required in the soft landscaped areas as proposed hardstanding and building footprints would act as a capping layer elsewhere.

4.2. Anticipated Remedial Works

The above options appraisal has demonstrated that the most appropriate remediation method for the proposed development will be the implementation of a clean cover system in areas of soft landscaping.

Based upon the findings of the Ground Investigation and the above Remedial Options Appraisal, the following remediation strategy has been devised in order to make the Site safe and suitable for redevelopment, as proposed:

- Removal and verification of Made Ground, including any previously unidentified areas of contamination, where required;
- Laboratory chemical testing of site won or imported soils to be used within soft landscaped areas;
- The installation of a clean cover system (capping layer) where contaminated soils remain/are placed beneath soft landscaped areas.

The above integrated strategy is designed to:

- Mitigate risks to human health via direct contact, ingestion and dust inhalation pathways; and,
- Provide flexibility in the event that localised unexpected gross contamination is identified beneath the Site.

Soils will need to be tested in line with the requirements laid out in Section 5.7 and Table 5.1.



5. Remediation Strategy Implementation

Based on the findings of the risk assessment and options appraisal the following works will be required to make the site suitable for its intended use.

The remediation works should be undertaken in a way which minimises off-site disposal, whilst recognising the end goals of the remediation strategy. The following overall strategy should be adhered to when implementing the remedial works.

5.1. Pre-Enablement Phase

1. Project setup and management including liaison with the Local Authority, Environment Agency and Health and Safety Executive, where necessary, with appropriate permits / licenses / consents / approvals granted.
2. Appointment of an appropriate remediation/earthworks (enablement) contractor and appropriate permits / licenses / consents / approvals.

5.2. Enablement Phase

3. Site clearance.
4. Excavation of Made Ground soils - All excavations to remove the Made Ground soils should be overseen by a suitably qualified geoenvironmental consultant who will advise when the base of these soils, or natural soils have been encountered.
5. Off-site disposal of any surplus soils.

5.3. Construction Phase

6. Confirmation and verification of the presence of natural soils at formation level will be required.
7. If any Brick Fill Made Ground soils are present beneath soft landscaped areas following the site strip, then verification of the capping layer will be required.

5.4. Clean Cover System

A clean cover system will **only** need to be implemented in areas of soft landscaping across the Site where the linkage between contaminants and future site users is still present following earthworks (i.e. where potentially contaminated Brick Fill Made Ground remains/is placed within areas of soft landscaping following the site strip and releveling).

There will only be a requirement to install a capping layer where Brick Fill Made Ground is present beneath soft landscaped areas. In areas of hardstanding or building footprints the pathway will be broken and there will be no requirement to install a capping layer.

Given that the site is to be utilised as a children's day nursery, it is considered that a Clean Cover System comprising 450mm imported clean cover, with a minimum of 150mm topsoil and a no dig geotextile at the base will be sufficient to break the pollutant linkage. Given that no homegrown produce is likely to be produced.

Where required, the installation of the cover system in areas of soft landscaping should be undertaken in the following steps:

1. Check the level of the formation (ground surface) to ensure that it is at the correct level for the placement of the cover system.
2. Place 150mm of topsoil and 300mm of subsoil and verify the thickness (A Geoenvironmental consultant is to be instructed to validate).

5.5. Testing Requirements

All sampling, logging and testing of soils shall be undertaken in accordance with BS 5930:2015 'Code of Practice for Site Investigations' and BS 10175:2011+A2:2017 'Investigation of Potentially Contaminated Sites – Code of Practice'. All testing shall be undertaken at a laboratory which holds UKAS and MCERTS accreditation for the specific tests.

Table 5.1 Chemical Testing Requirements for Site Won and Imported Topsoil

Type	Number of Samples	Testing Schedule
Virgin Quarried Material	2	Standard metals/metalloids (should include as a minimum As, Cd, Cr, CrVI, Cu, Hg, Ni, Pb, Se, Zn)
Hardcore, Stone, Brick (excluding asphalt)	Minimum 1 per 500m3	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos.
Greenfield/ Manufactured Topsoil	Minimum 3 1 per 50m3 in private gardens. 1 per 250m3 in public open space.	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos, pH and soil organic matter (SOM) (or calculated from total organic carbon (TOC)).
Brownfield/ Screened/ Site Won Topsoil	Minimum 6. 1 per 50m3 in private gardens. 1 per 100m3 in public open space.	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos, total TPH and pH. Topsoil and subsoil should also be tested for soil organic matter (SOM) (or calculated from total organic carbon (TOC)).



5.6. Off-site Disposal of any Surplus and Unsuitable Soils

If materials are disposed off-site, then material exported from site to landfill shall be hauled by a registered waste carrier in accordance with Duty of Care Regulations, 1991 and the Hazardous Waste Regulations, 2005.

It will be necessary to register the site in advance of the intended reclamation works with the Environment Agency before disposal to landfill can take place. There will be the requirement for the waste producer to provide additional Waste Acceptance Criteria (WAC) testing of the soils for disposal, to ensure that the soils are appropriately classified and that the landfill is licensed to receive such soils. A consignment note shall be completed, signed and retained by all parties involved. The consignment note shall state the volume of waste, a physical description of the material and statement of its chemical composition. The waste consignment notes shall be kept by the contractor for a period of at least two years. Final categorisation is the responsibility of the producer or holder of the waste. Additionally, liaison with the intended landfill operator may be required to confirm the receipt of the waste.

5.7. Enablement Phase Mitigation Measures

In order to mitigate the environmental impacts of the works on nearby residents and sensitive areas, a programme of mitigation measures should be implemented during the remediation works.

5.7.1. Dust Mitigation

Appropriate measures shall be implemented at all times during the remediation works, to minimise dust emissions. Soils should be dampened down, as necessary, and activity should be minimised in extremely windy conditions to prevent dust nuisance. An adequate supply of water shall be maintained on site at all times to allow for dust suppression activities to be carried out at short notice.

When dusty material is being loaded onto trucks, extra care should be taken to ensure that the drop height is minimised. Trucks should be suitably covered when leaving the site with contaminated material to prevent dust migration.

The amount of disturbed surfaces left exposed for significant time periods should be minimised. Stockpiles of fine or loose materials should be tamped down or covered to reduce the production of dust.

5.7.2. Run-off into Drains

All potential drainage on site and any discharge points should be identified, including land drains, foul sewers, surface water drains and any combined drains. These should be marked, as appropriate, for easy identification. Works should be minimised during periods of heavy rainfall to reduce the likelihood of run-off.

5.7.3. Health and Safety

Contaminated materials are present on site. During the enablement and construction phases of site development, it will be necessary to protect the health and safety of the personnel. General guidance on these matters is given in the Health and Safety Executive (HSE) document "Protection of Workers and the General Public during the Redevelopment of Contaminated Land" (HS(G)66).

5.8. General Notes

All appointed contractors must manage the risks in accordance with their legal requirements and will need to prepare health and safety documentation and obtain the relevant approvals, licenses, consents and permits prior to commencement.

All work needs to be undertaken in accordance with the Remediation Strategy and Verification Plan (this document). All remediation work is to be overseen by suitably experienced site staff and a site watching brief or periodic visits will be made by Ground Risk or a similar third-party consultant instructed by the remediation contractor. The purpose of these visits will be to ensure the necessary verification works are undertaken.

The following regulations, guidance and legislation relating to the works shall be complied with at all times:

- The Health and Safety Executive "Protection of Workers and the General Public During Redevelopment of Contaminated Land", HS(G)66, HMSO 1991;
- The Construction (Design and Management) Regulations 1994;
- The Control of Substances Hazardous to Health Regulations 1994.
- The Control of Asbestos Regulations 2012.



- CL:AIRE Definition of Waste Development Industry Code of Practice, 2nd Edition (2011)
- The Contractor shall detail in his method statement how any hazardous materials and / or situations are to be handled / managed.
- The Contractor shall also be responsible for the following:
 - The provision of health and welfare facilities;
 - Obtaining the relevant consents / approvals;
 - Mitigation measures;
 - Stability of works.



6. Verification

6.1. Site Supervision

All remediation work is to be conducted under a watch and brief by a Geoenvironmental consultant appointed by the client. The enabling works contractor may appoint their own Geoenvironmental supervision during their earthworks and remediation works.

6.1.1. Remediation Validation Report

The Validation Report will provide a complete record of the remediation activities undertaken at the site and the data collected to support compliance with remediation objectives and criteria. It will also include descriptions of the works with associated 'as built' drawings and details of any unforeseen conditions encountered during the works and how they were dealt with.

This Validation Report shall incorporate a summary of and commentary on:

- Site stripping and clearance activities.
- An outline of the remedial action taken to remove hazardous materials.
- Records of the extents and depths of any excavations required for the remedial works.
- Photographic record of each excavation.
- Records of inspection and final extents of validation.
- Records of material movements.
- Records of laboratory results.
- Waste classification and management documentation, including:
 - a) copies of all consignment notes, in particular those relating to the hazardous waste regulations; and
 - b) details of waste facilities where materials were disposed of.
- Stockpile plan of all stockpiles generated by the works.
- Copies of chemical testing of the stockpiled Topsoil.

6.1.2. Clean Cover System Validation

An engineered cover system will only need to be implemented in areas of soft landscaping where the linkage between contaminants and future site users is still present following earthworks (i.e. where potentially contaminated Made Ground remains at surface level within areas of soft landscaping following the site strip and releveling).

The verification of the depth of the cover system will be undertaken by Ground Risk or another suitably qualified Geoenvironmental consultant. This will be undertaken following installation of the subsoil and topsoil layers and comprise trial pits across the Site in areas of soft landscaping

If the cover system is deemed to be insufficient, the Client will be informed and advised on how much more material is needed for the clean cover system to be adequate. When rectified, verification pits will be re-excavated to confirm that a sufficient thickness of soil is present.

Letter reports for the verification of the engineered cover system shall be submitted to the NHBC to enable Land Quality Conditions to be lifted as plots are completed and will be issued to the Local Authority at the same time.



The cover system verification report will include:

- Confirmation of the source of imported material;
- Confirmation of the capping thicknesses, including photographs of the verification pits with a scaled marker;
- Confirmation of the physical suitability of the material;
- The chemical test results for the samples taken from the stockpiles of topsoil and subsoil and confirmation that the material is visually consistent with that tested, or the chemical test results for samples taken once the capping has been placed; and
- Confirmation that the chemical test results pass when compared to the relevant assessment criteria presented within Appendix D.

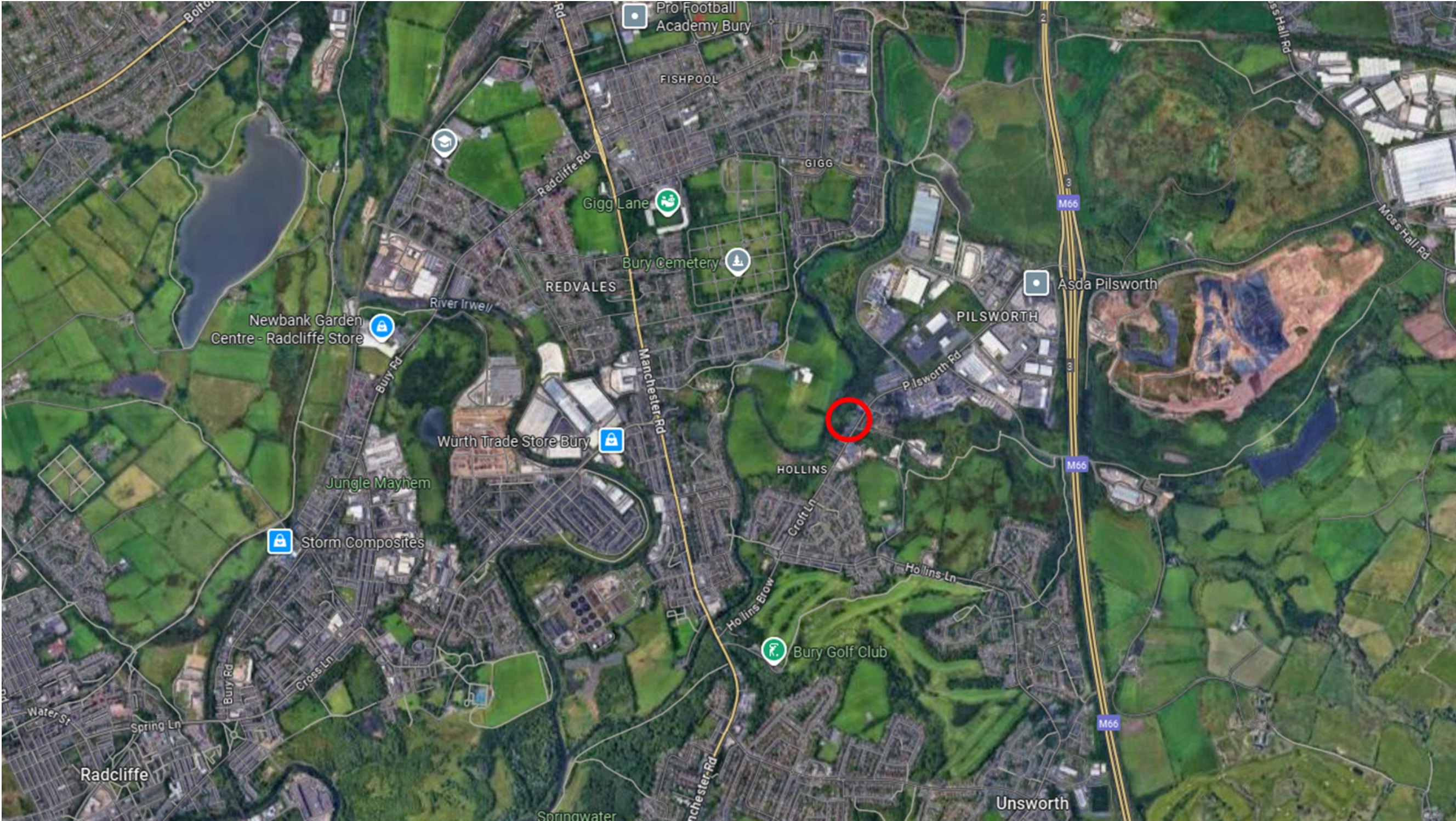


7. Contingency for Unknowns

Whilst relatively uniform ground conditions have been encountered across the site during the 3rd Party investigation, a small risk exists of the presence of localised unidentified contamination of Made Ground soils. Should any suspicious material be encountered during the redevelopment works, works shall be ceased within this part of the site and the area should then be investigated further by a suitably qualified geo-environmental engineer and sampled as necessary. The Environmental Health or Contaminated Land Officer at the local authority should also be notified immediately. Samples will be forwarded to a UKAS/MCERTS accredited laboratory for a suite of analytical testing deemed appropriate based upon an appraisal of the material identified. Once the results of the analysis are known and have been interpreted, the required remedial action (if any) will be determined and approved with the relevant regulatory authorities.

APPENDIX A – SITE PLANS AND DRAWINGS





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General Notes

Legend

Approximate Site Location

			
CLIENT: Tiddlywinks Nursery Group			
PROJECT: Croft Tiddlywinks			
TITLE: Site Location Plan			
DRAWING STATUS: DRAFT		PROJECT No: GR000226	
DATE: 20.10.2025		DRAWING No: GR000226-RS-01	
DRAWN: CJ	APPROVED: JG	SIZE: A3	REVISION: 01
SCALE BAR:			



APPENDIX B – GLOSSARY OF TERMS

ACEC	Aggressive Chemical Environment for Concrete (classification)
aOD	Above Ordnance Datum
bgl	Below ground level
BGS	British Geological Survey
BRE	Building Research Establishment
CBR	California Bearing Ratio (test)
COMAH	Control of Major Accident Hazards (regulations)
Designated location	Site (and the ecosystem on that site) protected under national or international legislation. A potential ecological receptor to be considered as part of the assessment of land contamination. Example designated locations include SSSIs (q.v.), SACs (q.v.), national nature reserves, Ramsar sites and bird special protection areas.
DQA	Data Quality Assessment
DQO	Data Quality Objective
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standard
EQS	Environmental Quality Standard
GAC	Generic Assessment Criterion
GQA	General Quality Assessment (Environment Agency)
GSV	Gas Screening Value
HCV	Health Criteria Value
IPPC	Integrated Pollution Prevention and Control (regulations)
KOW	Octanol-water partition coefficient
LEL	Lower Explosive Limit
LL	Liquid Limit
LoD	Limit of Detection (analytical)
LoQ	Limit of Quantification (analytical)
Mean Value Test	Statistical test (described in the CIEH Guidance) to estimate the mean value of a normally distributed population of data at a given level of confidence. Normally for contaminated land assessment, the 95th percentile (referred to as the 95%UCL or US95) is applied as a reasonable but conservative estimate of the mean concentration for comparison with the relevant assessment criteria.
Maximum Value Test	Statistical test (described in the CIEH Guidance) to identify whether an elevated concentration within a normally distributed data set forms part of the underlying population from which it has been sampled or whether it is an outlier (such as a localised area of contamination) that merits further consideration.
MC	Moisture Content
NGR	National Grid Reference
NIHHS	Notification of Installations Handling Hazardous Substances (regulations)



OS	Ordnance Survey
PI	Plasticity Index
PID	Photoionisation Detector
PL	Plastic Limit
ppm	Parts per million
ppmv	Parts per million by volume
QA	Quality Assurance
QC	Quality Control
SAC	Special Area of Conservation
SOM	Soil Organic Matter
SPT	Standard Penetration Test
SPZ	Source Protection Zone
SSAC	Site-Specific Assessment Criterion
SSSI	Site of Special Scientific Interest
SVOC	Semi-Volatile Organic Compound
TEF	Toxicity Equivalent Factor
TPH	Total Petroleum Hydrocarbons
TWA	Time Weighted Average
US95	95th percentile estimate of the true mean value of a data population (also known as 95%UCL).
VOC	Volatile Organic Compound



APPENDIX C – QUALITATIVE AND QUANTITATIVE RISK ASSESSMENTS

For the qualitative and quantitative assessment of risks posed by potential pollutant linkages have been undertaken using the risk matrix adapted from CIRIA C552 and outlined in the table below.

	Category	Definition
Potential severity	Severe	Acute (short term) risk to human health, Major pollution of sensitive controlled waters, ecosystems or habitat. Catastrophic damage to buildings or property or crops.
	Medium	Chronic (Medium / long term) risk to human health Pollution of sensitive controlled waters, ecosystems or species, Significant damage to crops, buildings or structures
	Mild	Easily preventable permanent health effects on humans. Pollution of non-sensitive controlled waters. Minor damage to buildings or structures.
	Minor	Easily preventable non-permanent health effects on humans, or no effects. Minor, low level and localised contamination of on-site soil. Easily repairable damage to buildings or structures.
Probability of risk	High Likelihood	Pollutant linkage may be present and the risk is almost certain to occur , or there is evidence of harm already occurring.
	Likely	Pollutant linkage may be present and it is probable that the risk will occur over the long term.
	Low Likelihood	Pollutant linkages may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so.
	Unlikely	Pollutant linkage may be present but the circumstances under which harm would occur are improbable.

		Potential Severity			
		Severe	Medium	Mild	Minor
Probability of risk	High Likelihood	Very high	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/Low	Low	Negligible
	Unlikely	Moderate/Low	Low	Negligible	Negligible



APPENDIX D - CHEMICAL CRITERIA FOR SITE WON OR IMPORTED SOILS

Soft Landscaped Areas Chemical Criteria (Residential With Homegrown Produce)

	Proposed GAC mg/kg		
Contaminant	(1% SOM)	(2.5% SOM)	(6% SOM)
Arsenic	37	37	37
Beryllium	1.7	1.7	1.7
Boron	290	290	290
Cadmium	11	11	11
Chromium (III)	910	910	910
Chromium (VI)	6	6	6
Copper	2400	2400	2400
Lead	200	200	200
Mercury, inorganic	40	40	40
Nickel	180	180	180
Selenium	250	250	250
Vanadium	410	410	410
Zinc	3700	3700	3700
Phenol (total)	760	1500	3200
Total TPH	1000	1000	1000
Asbestos	No Asbestos Detected		

	Proposed GAC mg/kg		
Contaminant	(1% SOM)	(2.5% SOM)	(6% SOM)
Acenaphthene*	210	510	1100
Acenaphthylene	170	420	920
Anthracene*	2400	5400	11000
Benz(a)anthracene	7.2	11	13
Benzo(a)pyrene	2.2	2.7	3
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(ghi)perylene	320	340	350
Benzo(k)fluoranthene	77	93	100
Chrysene	15	22	27
Dibenz(a,h)anthracene	0.24	0.28	0.3
Fluoranthene*	280	560	890
Fluorene*	170	400	860
Indeno(1,2,3,cd)pyrene	27	36	41
Naphthalene*	2.3	5.6	13
Phenanthrene*	95	220	440
Pyrene*	620	1200	2000

Total TPH limited to 1000mg/kg to minimise visual and olfactory impact			
Aliphatic EC5-EC6*	42	78	160
Aliphatic >EC6-EC8*	100	230	530
Aliphatic >EC8-EC10*	27	65	150
Aliphatic >EC10-EC12*	130	330	760
Aliphatic	1000	1000	1000
Aromatics EC5-EC7*	70	140	300
Aromatics >EC7-EC8*	130	290	660
Aromatics >EC8-EC10*	34	83	190
Aromatics >EC10-EC12*	74	180	380
Aromatics >EC12-EC16*	140	330	660



>EC12-EC16*			
Aliphatic >EC16-EC35*	1000	1000	1000
Aliphatic >EC35-EC44*	1000	1000	1000

Aromatics >EC16-EC21*	260	540	930
Aromatics >EC21-C35*	1000	1000	1000
Aromatics >EC35- EC44*	1000	1000	1000



Chemical Criteria (Phytotoxicity) for imported topsoil to ensure suitability as a growing medium (Source BS 3882:2005 Table 1)

	Phytotoxic Threshold Values mg/kg		
Soil pH	<6.0	6.0 - 7.0	>7.0
Copper	<200	<200	<300
Nickel	<100	<135	<200
Zinc	<60	<75	<110