Land Science



LAND AT BIRCH TREE FARM,
CUCKFIELD ROAD, ANSTY, RH17 5AG
REMEDIATION METHOD STATEMENT
BIRCH TREES FARM
30TH JANUARY 2026
LS9118

Site:	**LAND AT BIRCH TREE FARM, CUCKFIELD ROAD, ANSTY, RH17 5AG**
Title:	**REMEDIATION METHOD STATEMENT**
Project:	**RESIDENTIAL DEVELOPMENT**
Client:	**BIRCH TREES FARM**
Date:	**30TH JANUARY 2026**
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1.0 INTRODUCTION

1.1 General

Land Science was instructed to undertake a Remediation Method Statement in relation to the proposed redevelopment at Land at Birch Tree Farm, Cuckfield Road, Ansty, RH17 5AG. The location is shown on Figure 1, which is centred at grid reference TQ 29270 23298.

1.2 Client

The Client for this appointment was Birch Trees Farm. This report may only be used by this named client and their project team for the purposes set out and subject to the report conditions. It was understood that the Client already owned the property, and that this investigation was not a pre-purchase appraisal.

1.3 Area Under Investigation

The area under investigation comprised a gravel surfaced carpark, areas of soft landscaping and a barn. The layout is indicated on Figure 2. The area was approximately 0.15 hectares.

1.4 Proposed Development

The development is to comprise the erection of a 3no bedroom dwelling and associated hard/soft landscaping. The proposed development planning application reference is DM/25/2332, in addition planning in principle on this site was granted in July 2025 under DM/25/1453. Figure 3 illustrates the layout of the proposed redevelopment. The findings of this report may not be valid if the proposed development is altered.

1.5 Previous Investigations

The following previous investigations relevant to the site were made available:

- Land Contamination and Ground Condition Report, the client (Birch Trees Farm), August 2025.
- Phase I Contamination and Geotechnical Assessment (“desk study”), Land Science, December 2025. LS8860.
- Phase II Geo-environmental Investigation Scheme, Land Science, December 2025, LS8990.
- Phase II Geo-environmental Investigation, Land Science, January 2026, LS8990A.

This report has been carried out in accordance with the recommendations of the previous reports, and all reports must be read in conjunction with each other.

The Remediation Method Statement may require amendments following the review by the Contaminated Land Officer at Mid Sussex District Council.

1.6 Scope of Work

Land Science were instructed to carry out a Remediation Method Statement in relation to removing/reducing any potential risks to any sensitive receptors.

It is understood that this report will be used to inform planning conditions with regards to managing contaminated land risks as part of the development.

1.7 Standards

Where practicable, the investigation was undertaken in accordance with the following primary standards and guidance:

- Land Contamination Risk Management (LCRM) Environment Agency June 2025.
- BS10175:2011+A2:2017, Investigation of Potentially Contaminated Sites.
- National Planning Policy Framework, December 2024.
- Building Regulations Approved Document C: Site preparation and resistance to contaminants and moisture, HM Government, September 2013.
- NHBC Standards Chapter 4.1: Land Quality - Managing Ground Conditions, 2024.

Other technical sources have been cited in respect of specific aspects of the investigation, as referenced throughout the text.

2.0 REMEDIATION OBJECTIVES AND OPTIONS

2.1 Objectives

The distribution, nature and concentrations of contaminants of concern are a critical consideration for the selection of the correct remedial technology for the attainment of the remediation objectives.

The prevalence of some recalcitrant contaminants may make a specific technology expensive or unviable in terms of treatability and/or cost. The selection of the right remedial technology is further complicated by other considerations such as the geological and hydrogeological setting, extent of previous investigation/remediation works, the time available for implementation and treatment, site access and restrictions posed by ongoing development, and cost.

The primary objective of the remediation activities will be for the safe redevelopment of the site that is suitable for the proposed end-use. Considering the previous sections, the following remedial options available to manage unacceptable risks will either:

- Manage (remove, destroy, modify or immobilise) the source;
- Interrupt the pathway; or
- Modify the receptor or the behaviour of the receptor.

The preferred options will be designed to manage the source of contamination or interrupt the pathway.

Source management may involve the removal, destruction, or transformation of the source. Pathway interruption may involve either the blocking of the pathway or the destruction or removal of contaminants moving along a pathway.

This can be achieved either via the permanent reduction of contaminant concentrations to acceptable limits; source removal; pathway interruption.

2.2 Constraints

There are limited constraints at the site, proposed site levels could be raised / lowered slightly if needed, material could be reused on site and excavated natural soils could be stockpiled on site for future use as backfill.

3.0 IMPLEMENTATION PLAN

The previous Phase II report (LS8990A) undertaken by Land Science identified some risks to receptors at the site and the following are recommended: -

- Excavating and disposing of Made Ground from the proposed garden / soft landscaping area within the vicinity of TP01, inspections of the reduced site levels, and replacement with a capping system comprising imported topsoil / subsoil (minimum 600mm). Or alternatively the levels in this area could be raised due to the presence of several Tree Protection zones within this part of the site.
- Upgrading of new water supply pipework.
- Waste Disposal considerations.
- A Discovery Strategy should be followed during the development.

The following strategy has been prepared in order to render the site safe for residential occupation with private gardens.

3.1 End Users

3.1.1 TP01

Made Ground with elevated levels of PAHs and lead was encountered at TP01 which was located within a small area of proposed soft landscaping by the site entrance.

TP01 was located within a small grass verge between the existing carparking area (to the south) that is to be retained and an area with trees and large shrubs (to the north and west). The grass verge extended away from TP01 to the east. It is anticipated that the Made Ground may be localised to TP01 (around 3m long and 1m wide) and associated with disturbance of soils during the laying of electrical cables in the area. Further soil testing could be undertaken within this area to determine the extent of the Made Ground.

The previous Phase II Report recommended the removal of Made Ground (which extended to a depth of 0.40m) within the vicinity of this position and its replacement with chemically compliant material.

However, an arboricultural report provided by the client details several tree root protection areas in this part of the site and it may not be possible to remove any soils from this area as it would expose roots to these trees. If they are encountered, then the remedial excavations should be stopped and backfilled with replacement topsoil / subsoil immediately. Consideration should be given to possibly raising the site levels by 600mm in this area instead to provide a suitable thick cover system.

Any new soil make up in this area should be at least 600mm deep comprising the following from existing ground level:

- 150mm ‘clean’ imported or site won topsoil, over
- 450mm ‘clean’ imported or site won subsoil.

or a combination of the following:

- 50mm bark mulch, over
- 150mm topsoil, over
- 250mm subsoil, over
- 150mm free draining gravel layer.

A visual inspection of the ground should be undertaken prior to the laying of any topsoil by a suitably qualified environmental consultant. Where levels are lowered and the excavations encounter natural soils within 600mm the soils should be inspected and sampled as part of remedial inspections to confirm if the material can be left in place.

Where Made Ground is still present below a depth of 600mm from the proposed final levels within this area a geotextile membrane (e.g. Terram Hi-Vis) should be placed between the Made Ground and imported soils. The data sheet for the Terram Hi-Vis Geotextile is contained within Appendix B.

Any removal of Made Ground and the provision of chemically suitable fill material should be monitored and validated by a suitably qualified environmental consultant. Detailed site inspection sheets should be compiled confirming details of areas inspected, depths of any imported soils, samples taken and where any further work is required etc. Photographs should be taken and included with the inspection sheets in the final Remediation Validation Report.

3.1.2 Imported Materials

Material used to raise site levels must be suitable for the proposed end use and chemical testing is recommended to confirm that they do not contain elevated concentrations of potential contaminants of concern that could pose a risk to end users (e.g. asbestos).

Unless otherwise agreed by the Contaminated Land Officer at the Local Authority once the materials have been imported to site samples of the imported topsoil / subsoil should be taken and scheduled for the chemical tests listed below. The results must meet the screening criteria appended to this document (Appendix B) and must be 'clean' and 'suitable for use' with no visual evidence of contamination (sharps or visual signs of pollution).

Depths for the imported topsoil should be dependent on what is to be grown; 150mm for grass, 450mm for shrubs and 900mm for new trees.

The soil testing requirements for any imported backfill materials should be as follows: -

Soil Type	Chemical Testing	Required Testing Frequency
Imported Topsoil	pH, soil organic matter, heavy metals, PAH, BTEX, asbestos screen + BS3882 physical testing for topsoil.	On site: 1no. sample per 50m^3 for each material and source.
Subsoil	pH, soil organic matter, heavy metals, PAH, asbestos screen + BS8601:2013 for subsoil.	Where >10m^3 a minimum of 3no. samples.

If site won material is to be used as proposed subsoil / topsoil, it should be tested to confirm it is suitable to be re-used. The chemical tests should include pH, soil organic matter, heavy metals, PAH, BTEX, asbestos screen but as they are site won they will not require the relevant British Standard testing.

In addition, the laboratory test results for material imported to soft landscaping areas should also meet the criteria in the following table with respect to potential phytotoxic risk to plant growth.

Element	Phytotoxicity Value (mg/kg)			Arable (grassland)
	pH <6.0	pH 6.0-7.0	pH >7.0	pH >5.2
Zinc	200	200	300	300 (300)
Copper	100	135	200	200 (330)
Nickel	60	757	110	110 (180)
Cadmium	50*			3.0 (3.0)
Arsenic	1,000*			50 (50)

If the verification tests fail screening criteria, then the material is deemed not acceptable and should be removed from site, associated waste transfer notes for this material should be included within the Remediation Validation Report. Remedial actions should be detailed in the Validation Report on how the failures were rectified.

Records of the volume of imported materials will be kept (transfer notes / purchase records) and a summary table (with volumes, dates removed and waste classification) will be included within the Validation Report. It is recommended that topsoil / subsoil is imported from a reputable supplier and that certification should be supplied from the source of the material. These certificates must not be older than 6 months old, have a declaration of compliance and should be scheduled for the chemical tests previously detailed. The summary will also have a calculation to show the volume of material removed from the landscaped areas corresponds to the same volume of imported subsoil / topsoil this is to confirm that enough 'clean' imported material has been brought onto the site to infill any excavations and that site won materials have not been re-used.

The reduced levels should be suitably prepared prior to the laying of any imported subsoil / topsoil. If the ground has been compacted during the groundworks (e.g. movement of site traffic) then to aid drainage and to prevent any undue flooding / waterlogging (which can lead to raised anaerobic conditions) the ground should be rotavated / broken up with the use of a specialised ripper tool or deep soil rotovator.

Topsoil should be at least 150mm but should not exceed a depth of 300mm as this would also lead to creation of anaerobic soil conditions leading to poor vegetation growth.

It is recommended that a Soil Management Plan be followed once any imported subsoil or topsoil are brought on to the site or existing site won topsoil has been stripped and stockpiled on site for used later. The plan should include details on handling soils during differing climatic conditions and the correct procedures for stockpiling.

Photographs will be taken and included with the inspection sheets in the Remediation Validation Report. Photographs should have a clearly visible measuring tape / staff to confirm thickness of imported materials, and should also include a photo board to confirm sample location, date etc.

If proposed soft landscaped areas are to be surfaced with artificial grass or similar products, it is recommended that the clean cover depth for an associated vegetation finish should be matched.

3.2 Potable Water Supplies

Buried plastics used for potable water supplies should be upgraded to resist chemical contamination. Barrier pipework will be acceptable (e.g. Protecta-Line – see Appendix C for details). No pipework should be laid where there is evidence of hydrocarbons.

Confirmation should be sought from the utility supply company as to the suitability of potable water supply pipes prior to install.

New service utility trenches should be backfilled with chemically inert material for example naturally sourced sand or pea shingle or material that has been chemically tested and meets the chemical validation specification in Appendix C.

3.3 Adjacent land Users

Surrounding land uses were identified to comprise a mix of commercial and residential properties, analogous with the proposed development on site. The CSM identified a possible source-pathway-receptor linkage via inhalation of dusts (generated from unsealed areas in Made Ground soils.

Measures should always be taken to prevent and control any dust, run-off, and mud etc. generated during groundworks, as part of good site management.

3.4 Waste Management

3.4.1 Stockpiles

If material is excavated from the ground (e.g. site strip and service trenches) is unlikely to be stockpiled on site, due to the size constraints of the site. If stockpiles are to be created, they should be on impermeable ground, over a geotextile membrane and managed suitably to minimise dust generation i.e. dust suppression and suitable covers. Stockpiles must be bunded to prevent possibility of contaminated surface water run-off impacting surrounding land.

Stockpiles of 'waste arising' for offsite disposal and stockpiles of imported 'clean' material for use as anti-dig / clean capping need to be clearly marked and appropriately segregated to avoid the potential for cross contamination.

Stockpiles should be regularly surveyed and records maintained to be included in the verification report.

The Contractor undertaking the remediation works is responsible for compliance with waste management legislation where issues relating to waste arise as a result of the works. As a minimum, the following is required:

- Management of material that arises during the works and is classified as waste.
- Waste streams are appropriately classified prior to offsite disposal.
- Audit process for the selection of waste management contractors to include the collection and assessment of licences, permits and registrations.

3.4.2 Soil Disposal

The contractor should allow for a suitable regime of testing soil arisings to ensure they are being disposed of to the appropriate facility with the appropriate level of duty of care.

The results of the soil analysis have been classified as follows:

Soil	Waste designation	Details
Made Ground TP01 0.10m	Non-hazardous	The soil analysis was not identified as hazardous, no WAC test was undertaken. Interpretation: Non-hazardous waste.
Topsoil TP03 0.10m TP05 0.10m TP07 0.10m	Non-hazardous	The soil analysis was not identified as hazardous, no WAC test was undertaken. Interpretation: Non-hazardous waste.
Made Ground TP04 0.30m	Hazardous	The soil analysis was identified as hazardous due to the presence of a fragment of asbestos, no WAC test was undertaken. Interpretation: Hazardous waste.
Subsoil TP07 0.30m	Non-hazardous	The soil analysis was not identified as hazardous, no WAC test was undertaken. Interpretation: Non-hazardous waste

Asbestos Containing Materials (ACMs) were identified in the Made Ground at TP04 as a fragment of cement bound chrysotile. WM3 states that where waste contains identifiable pieces of asbestos containing material (i.e. any particle of a size that can be identified as potentially containing asbestos by a competent person if examined by the naked eye), then these pieces must be assessed as asbestos. Given that HSE publication HSG264 suggests that there are no ACMs where the typical proportion of asbestos is less than 0.1%, it follows that all soils containing visually identifiable ACMs are hazardous waste (but may still be sub-classified as SNRHW). Any excavations within the subbase materials below the existing carpark should proceed with caution and follow the Discovery Strategy in Section 3.5 with appropriate site controls in place to prevent the release of any asbestos fibres.

It was anticipated that the underlying natural soils would meet the inert waste criteria.

Liaison with the proposed receiving facility is recommended to be undertaken at an early stage in the scheme to confirm the requirements.

Soils may potentially be handled as Non-Waste and re-used on site (or on other sites) in accordance with various protocols such as those published by the EA or CL:AIRE. Typical requirements include:

- That the re-use of material will not endanger human health, cause nuisance, or harm the wider environment (controlled waters, ecosystems, etc.
- That there is there a clear environmental benefit from the activity, and that the waste is being used as a substitute for non-waste material.
- The materials are suitable for use without further treatment.
- The holder is certain that the materials will be used in a safe manner.
- Only the necessary quantities of materials are being used.
- A Waste Recovery Plan (EA) or Materials Management Plan [MMP] (CL:AIRE) are produced and followed, and audited in a Verification Plan.

It may also be possible to treat materials under an environmental permit, standard rules permit, or U1 exemption, subject to strict limits.

The soil testing undertaken in the Phase II indicated that there were no significant risks to end users, soft landscaping or controlled waters so could potentially be re-used on site.

Records of the removal and disposal of soils must be kept and included within the final validation report. The records should include details of volumes, waste codes, facility that the material is sent to and dates etc.

3.5 Discovery Strategy

During groundworks, a watching brief is required by a competent environmental consultant, site-based engineer or site manager. Should visual signs or olfactory signs of unexpected contamination be identified then the following is required:

- Stop works in the location of identified gross contamination.
- Inform the Site Manager and Environmental Consultant.
- Environmental consultant to inform Local Planning Authority Contaminated Land Team, with no further works undertaken in the area until any new recommendations have been agreed.
- Excavate the impacted area until impacted material is visually removed.
- The excavated material can be temporarily stockpiled on site, for pre-treatment and waste classification, prior to being disposed of offsite at a suitably licensed facility in accordance with the above (as detailed in Section 3.4).

Unexpected contamination may include:

- Visible fragments of asbestos board / tile or fibre (lagging);
- Soil headspace readings >100 ppm (using photo-ionisation detector [PID]);
- Significant discolouration of the soil;
- Visible hydrocarbon seeps; and;
- Strong hydrocarbon odour in the hand.

4.0 SITE CONTROLS

4.1 General Controls

Site works should be undertaken in accordance with the CDM:2015 Regulations and guidelines prepared by the Health and Safety Executive [HSE, 1991 Protection of Works and the General Public during the Development of Contaminated Land and Guidance Note HS(G)66, Health and Safety Executive, HMSO, 1991].

Detailed control measures with respect to contaminated land will be required during works on the site, to include (but not limited to):

- Monitoring of actual changes to ensure mitigation of potential adverse effects.
- Education of workers to risks associated with contamination (site inductions and appropriate toolbox talks);
- Posting of appropriate warning signs.
- Provision of suitable welfare facilities; and
- Provision of suitable PPE (and RPE if required).

4.2 Odours, Noise and Vibration

Care will need to be taken during activities to minimise the impact of any odours, dusts, noise and vibration on the surrounding buildings and receptors. In all instances, best practicable means (BPM) should be employed to control noise and vibration. BPM should also be employed to control dust emissions, such as (but not limited to) damping down dusty operations throughout the earthworks.

5.0 VALIDATION REPORT REQUIREMENTS

There is a requirement that the remediation of the site is validated and documented in line with Environment Agency document: verification of remediation of land contamination report (SC030114/R1).

The Contractor will hold as a minimum:

- Records of all excavations including:
  - Ordnance survey extents and depths
  - Photographic record of each excavation; and
  - Records to be included within inspection records including accurate survey depths, final extents and volume of material removed / imported.
  - Plans of the site showing where remediation has been undertaken including estimated area of each discrete soft landscaping area.
  - Records of the volume of each type of material excavated and imported.
  - Records of the volume of each type of material excavated and imported to soft landscaping area will also be estimated and included in the Remediation Validation Report. There should be a calculation for soft landscaped areas to confirm the volume of material removed is the same as volume of imported soils.
  - Records of any changes to proposed changes to the landscaping scheme and changes to removed volumes of materials removed and imported.
- Records of laboratory analytical and *in-situ* field test results, including:
  - Inspection records for sidewall and base surveys for presence of gross contamination post void excavations.
  - Testing of any natural soils encountered within a depth of 600mm within the proposed soft landscaped areas.
  - Particulars of remediation monitoring on site inspection sheets (date / location / personnel), each garden area will be inspected to confirm depth and make up of 'clean' cover;
  - Laboratory test certificate for each verification test of imported material (granular infill for excavations, or imported subsoil / topsoil if required).
  - Calibration data for field measurement equipment used in accordance with manufacturers guidance;
  - Chain of custody forms.
- Records of any previously unidentified contamination, as detailed in the Discovery Strategy (if encountered). If any further remedial recommendations are required following completion of the various development phases (groundworks, landscaping etc.) a signed confirmation that the Discovery Strategy has been followed (including if no unexpected contamination was encountered) from the appointed site contractor or client will be required and copies included within the Remediation Validation Report.
- Records of recommended water mains pipework, including:
  - Inspections of proposed service trenches to confirm location, depths and presence of any visual contamination. If visual contamination is encountered the excavations will be required to be extended to remove such material.
  - Confirmation of installation of recommended pipework and 'clean' inert backfill to the service trenches.
- Records of material movement, including:

    - Volumes, origin and placement location of soils references to field results.
    - Details and quantities of excavated and imported materials.
    - Records of earthworks excavations including, as constructed, photographs, quantities of materials and records of progress; and,
    - Waste transfer notes for any material disposed of as waste.
- Waste classification and management documentation, including:
    - Details of all parties involved in the works.
    - Records of approval and method statements.
    - Records of discussions with regulatory authorities and written approval for actions.
    - Records of license applications (including mobile treatment license or declaration under the Definition of Waste Industry Code of Practice); and,
    - Records demonstrating environmental monitoring.

All relevant information as detailed in above shall be collected during the remediation works and an independent verification report complied on completion. The validation report shall take account of the recommendations in Land Contamination Risk Management (LCRM) Environment Agency 2020 and comprise as a minimum:

- A summary of the information contained in the risk assessment reports along with the agreed redevelopment strategy and objectives.
- Decision records covering agreement with regulators.
- Records of works undertaken and associated validation and monitoring records e.g. laboratory validation test certificates).
- Details of all parties involved in the works.
- Details and quantities of excavated soils and volumes disposed of off -site.
- Specialist contractor's validation reports for particular elements of work (if used).
- Details of the validation data for any imported soils used on-site (at least three sets of analyses per source) plus *in-situ* validation test results confirming depth and chemical quality.
- Waste classification and management documentation ;
- Additional risks assessments / non-scheduled reactive works relating to previously unidentified contamination and all related remedial works that were undertaken; and,
- Final status of remediation and achievement remedial objectives to satisfy planning conditions.

It should be noted that consideration has not been given to the protection of groundworkers, during the construction phase of this project, as that is outside the scope of this report. Adequate protection measures should be provided within a Construction Method Statement, completed by the Principal Contractor (CDM regulations 2015) for the project.

REFERENCES

A number of technical references have been referred to in the preparation of this document, including:

- Smith, I. (2014) Smith's Elements of Sil Mechanics. Chichester. Wiley Blackwell. 9th edition.
- BRE Design Guide 365. Soakaway design ("DG365").
- Radon: Guidance on protective measures for new buildings, BRE Report BR 211, 2023 6th edition.
- The Environment Agency's approach to groundwater protection. February 2018 Version 1.2.
- Water UK and the Home Builders Federation; Contaminated Lane Assessment Guidance, dated January 2014.
- Concrete – Complementary British Standard to BS EN 206 - Method of specifying and guidance for the specifier BS 8500-1:2023 - TC, dated November 2023.
- Revised EU Waste Framework Directive 2008 2008/98/EC [transposed into English law under The Waste (England and Wales) Regulations 2011].
- European Community (EC) Directive 1999/31/EC [transposed into English law under the Landfill (England and Wales) Regulations 2002].
- Defining Waste Recovery - Permanent Deposit of Waste on Land, EPR13 v1.0, EA 2010.
- The definition of waste: Development Industry Code of Practice, v2, CL:AIRE 2011.
- Guidance on the classification and assessment of waste Technical Guidance WM3 ("WM3") EA publication (1st edition v1.2GB) dated 2021.

REPORT CONDITIONS

The Client

This report may only be used by the client named in section 1 and their appointed project team for the purpose of design, obtaining planning, building regulations approval, and in connection with finance. This report must not be used by any other persons or for other purposes without express written agreement of Land Science.

General

Land Science takes all reasonable professional care in the preparation of this report, using current standards and industry practice. However, the evaluation of ground conditions depends on an interpretation and extrapolation of the conditions revealed by a limited data set. The level of risk is related to the extent of investigation and no site is ever free of risk. The client should understand their risks and liabilities. We accept no liability whatsoever in respect of:

- The scope, extent or design of an investigation.
- Any conditions not directly revealed by the investigation.
- Published standards or methodologies used or adopted in this report.
- The opinion of any other party including any regulator, authority or stakeholder.
- Any dispute, claim or consequential loss arising from any findings of this report.
- Third party information and data.

This report relates solely to ground-related matters as set out in the objectives and makes no representation on other matters such as ecology, arboriculture, invasive plant species, the condition of buildings and structures, hazardous building materials such as insulation or asbestos, the locations of boundaries, unexploded ordnance, and or planning constraints etc. Further reports should be commissioned in this respect as appropriate.

Regulators and Approvals

This (and any other) report should be submitted to relevant authorities for their own assessments and to provide their approval or comments accordingly. This should be in good time before commencing on site in case additional work is to be carried out.

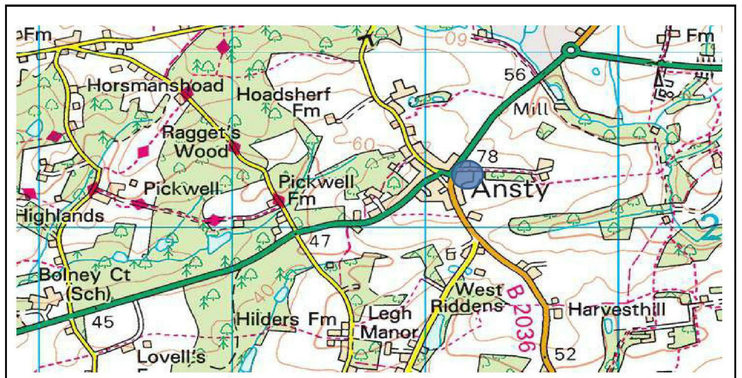
Standards, technical guidance and regulatory positions change over time and which may therefore affect the findings and recommendations made in this report; this should be verified by the client prior to any critical project milestones. Where this information is used in design, the designer should verify that the information is appropriate and has been used correctly.

Variations with Time

The report relates to conditions revealed at the time of the investigation and any monitoring visits. Some parameters may vary over time or seasonally; groundwater levels, ground gas compositions, or concentrations of contaminants are particularly variable in this respect. Further monitoring or verification should be considered as appropriate.

GLOSSARY OF TERMS

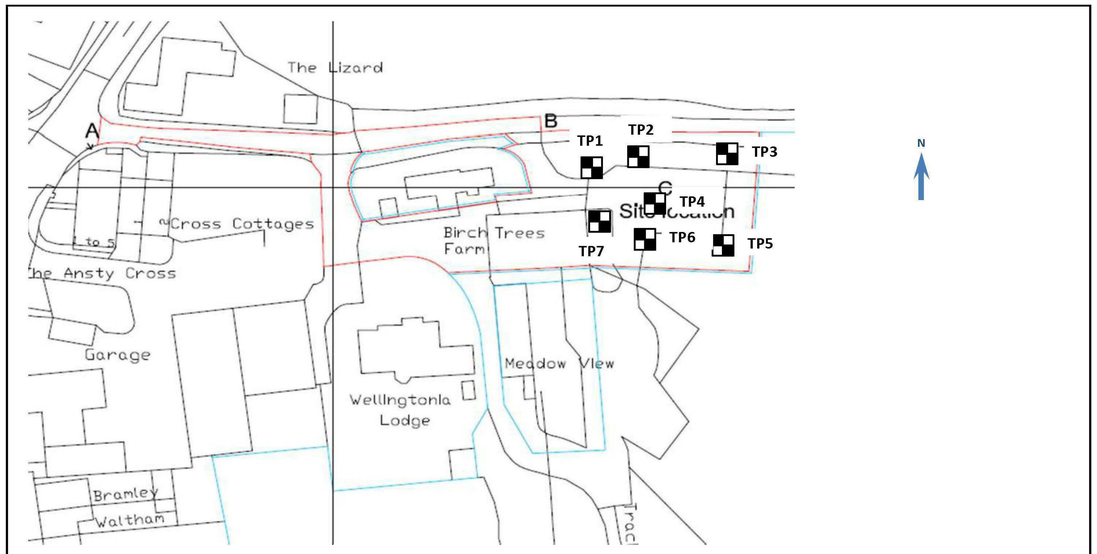
ACM	Asbestos Containing Material
BGS	British Geological Survey
BRE	Building Research Establishment
BS	British Standard
C4SL	Category 4 Screening Level
CBR	California Bearing Ratio
CDM	Construction Design and Management regulations
CIRIA	Construction Industry Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
CLEA	Contaminated Land Exposure Assessment model
CSM	Conceptual Site Model
EA	Environment Agency
EQS	Environmental Quality Standards
FOC	Fraction of Organic Carbon
GAC	Generic Assessment Criterion
GQRA	Generic Quantitative Risk Assessment
mbgl	Meters Below Ground Level
NHBC	National House Building Council
mOD	Metres above Ordnance Datum
PAHs	Polycyclic Aromatic Hydrocarbons
PHE	Public Health England
PID	Photo-Ionisation Detector
PQRA	Preliminary Quantitative Risk Assessment
PSD	Particle Size Distribution Test
RMS	Remediation Method Statement
S4UL	Suitable for Use Level
SOM	Soil Organic Matter
SPZ	Source Protection Zone
SPT	Standard Penetration Test
SSSI	Sites of Special Scientific Interest
ST-WEL	Short Term Workplace Exposure Limit
SVOCs	Semi-Volatile Organic Compounds
TPH	Total Petroleum Hydrocarbons
TRRL / TRL	Transport Road Research Laboratory
TWA-WEL	Time Weighted Average Workplace Exposure Limit
UK HBF	United Kingdom House Building Federation
VOCs	Volatile Organic Compounds
WAC	Waste Acceptance Criteria





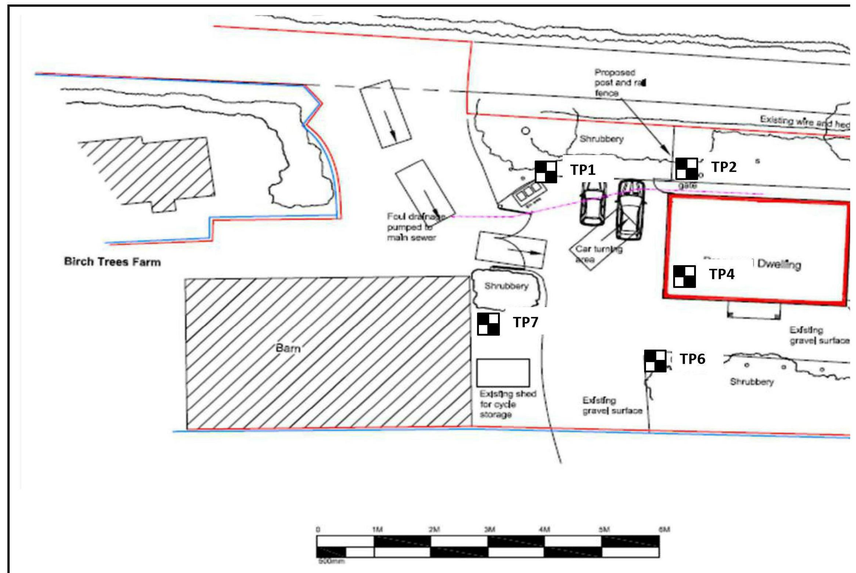
Land Science	**TITLE:** Site Location			**REF:**	LS8990
	PROJECT: Birch Trees Farm, Ansty, RH17 5AG			**FIGURE**	1
	CLIENT: BIRCH TREES FARM			**DATE:**	19/12/2025
	CHECK: MR	**CHECK:** ET	**VERSION** V1	**SHEET:**	1 of 1

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Land Science	**TITLE:**	Existing layout / Exploratory positions	**REF:**	LS8990	**PREPARED:** MR
	PROJECT:	Birch Trees Farm, Ansty, RH17 5AG	**FIGURE:**	2	**CHECKED:** ET
	CLIENT:	BIRCH TREES FARM	**DATE:**	19/12/2025	**VERSION** v2

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Land Science	**TITLE:** Proposed Layout / Exploratory positions	**REF:** LS895
	PROJECT: Birch Trees Farm, Ansty, RH17 5AG	**FIGURE:** 3
	CLIENT: BIRCH TREES FARM	**DATE:** 19/12

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APPENDIX A

TIER 1 SOIL SCREENING (HUMAN HEALTH)

Project:	Birch Trees	**Soil Organic Matter (calculated):**	4.21%
Reference:	LS8990	**Soil Organic Matter (adopted):**	2.50%
Assessor:	MR	**Scenario:**	Residential (with vegetation)

Lab Sample Ref.	
Location Ref.	
Depth (m)	
Sample Number	
Date sample taken	
Time sample taken	

Determinand	**Source**	**Value**	**Units**	**Detection Limit**
Asbestos (identification)	N/A	Not-detected	Type	N/A
Herbicide and Pesticide Screening	N/A	Absent	P/A	-
General Inorganics				
pH	NONE	-	pH Units	N/A
Total Cyanide	NONE	-	mg/kg	1
Water Soluble Sulphate (Soil Equivalent)	No health risk	-	g/l	-
Water Soluble Sulphate as SO_4 (2:1)	No health risk	-	mg/kg	-
Water Soluble Sulphate (2:1 Leachate Equivalent)	No health risk	-	g/l	0.00125
Sulphide	NONE	-	mg/kg	1
Speciated PAHs				
Naphthalene	S4UL	5.6	mg/kg	0.05
Acenaphthylene	S4UL	420	mg/kg	0.1
Acenaphthene	S4UL	510	mg/kg	0.1
Fluorene	S4UL	400	mg/kg	0.1
Phenanthrene	S4UL	220	mg/kg	0.1
Anthracene	S4UL	5400	mg/kg	0.1
Fluoranthene	S4UL	400	mg/kg	0.1
Pyrene	S4UL	1200	mg/kg	0.1
Benzo(a)anthracene	S4UL	11	mg/kg	0.1
Chrysene	S4UL	22	mg/kg	0.05
Benzo(b)fluoranthene	S4UL	3.3	mg/kg	0.1
Benzo(k)fluoranthene	S4UL	93	mg/kg	0.1
Benzo(a)pyrene	S4UL	2.7	mg/kg	0.1
Benzo(a)pyrene (surrogate marker for genotoxic PAHs)	C4SL	5	mg/kg	0.1
Indeno(1,2,3-cd)pyrene	S4UL	36	mg/kg	0.1
Di-benzo(a,h)anthracene	S4UL	0.28	mg/kg	0.1
Benzo(ghi)perylene	S4UL	340	mg/kg	0.05
Coronene	NONE	-	mg/kg	0.05
Total PAHs				
Total WAC-17 PAHs	NONE	-	mg/kg	1.6
Heavy Metals / Metalloids				
Lead	C4SL	200	mg/kg	1
Mercury (elemental)	S4UL	1.2	mg/kg	0.3
Mercury (Inorganic)	S4UL	40	mg/kg	0.3
Mercury (Methylmercury)	S4UL	11	mg/kg	0.3
Nickel	S4UL	130	mg/kg	1
Selenium	S4UL	250	mg/kg	1
Vanadium	S4UL	410	mg/kg	1
Zinc	S4UL	3700	mg/kg	1
Monoaromatics				
Benzene	S4UL	170	µg/kg	1
Toluene	S4UL	290000	µg/kg	1
Ethylbenzene	S4UL	110000	µg/kg	1
Xylene (p & m) (note - values for p used)	S4UL	130000	µg/kg	1
Xylene (o)	S4UL	140000	µg/kg	1
MTBE (Methyl Tertiary Butyl Ether)	NONL*	1	µg/kg	1
Total BTEX	NONE		µg/kg	10
Petroleum Hydrocarbons				
Mineral Oil (C10 - C40)	NONE	-	mg/kg	10
TPH (C10 - C40)	NONE	-	mg/kg	-
Aliphatic EC 5-6	S4UL	78	mg/kg	0.1
Aliphatic EC >6-8	S4UL	230	mg/kg	0.1
Aliphatic EC >8-10	S4UL	65	mg/kg	0.1
Aliphatic EC >10-12	S4UL	330	mg/kg	1
Aliphatic EC >12-16	S4UL	2400	mg/kg	2
Aliphatic EC >16-35	S4UL	92000	mg/kg	16
Aliphatic EC >35-44	S4UL	92000	mg/kg	-
Aromatic EC 5-7	S4UL	140	mg/kg	0.1
Aromatic EC >7-8	S4UL	290	mg/kg	0.1
Aromatic EC >8-10	S4UL	83	mg/kg	0.1
Aromatic EC >10-12	S4UL	180	mg/kg	1
Aromatic EC >12-16	S4UL	330	mg/kg	2
Aromatic EC >16-21	S4UL	540	mg/kg	10
Aromatic EC >21-35	S4UL	1500	mg/kg	10
Aromatic EC >35-44	S4UL	1500	mg/kg	-

APPENDIX B

TERRAM
Hi Vis Geotextile





TERRAM Hi Vis is a non-woven orange geotextile used for separating contaminated/uncontaminated soils.

TERRAM Hi Vis geotextiles have a dual effect: its vivid colour warns of potential danger at the point of any future excavations and it can also prevent the upward movement of contaminated soil particles.

Preventing intermixing of granular materials and soils

TERRAM Hi Vis geotextiles provide an effective solution to the problem of constructing a stable granular layer over soft foundation soils. When stone is placed directly on a soft subgrade, the imposed load often causes intermixing of two layers. This results in contamination of the stone layer and a resulting loss in bearing strength, surface rutting and deformation at the sub-base/subgrade interface.

Preventing the ingress of fines into drainage media

Whether it's a granular drain or a geosynthetic alternative such as open geocellular units, TERRAM Hi Vis geotextiles are ideal for preventing the ingress of fines.

TERRAM filters/separators are used extensively in the construction of

- Paved and unpaved roads
- Railways
- Car parks and hardstandings
- Cycleways and footpaths
- SuDS installations
- Green roofs

Features

- Engineered to provide high strength and high elongation at break
- Manufactured from high tenacity UV stabilised virgin polypropylene fibres to provide long term durability in all soil types
- Manufactured using a randomly orientated web to provide completely isotropic properties
- Excellent uniformity with high permeability and low pore size for soil filtration

PRODUCT GRADE	T1000 Orange Geotextile
Roll Width (*) m	4.5/6
Roll Length (*) m	100

TERRAM product specifications can be downloaded from **www.terram.com**

APPENDIX C

PROTECTA-LINE

THE TRIED & TRUSTED BARRIER SYSTEM



WHY RISK IT?



THE ORIGINAL, TRIED AND TRUSTED BARRIER PIPE SYSTEM

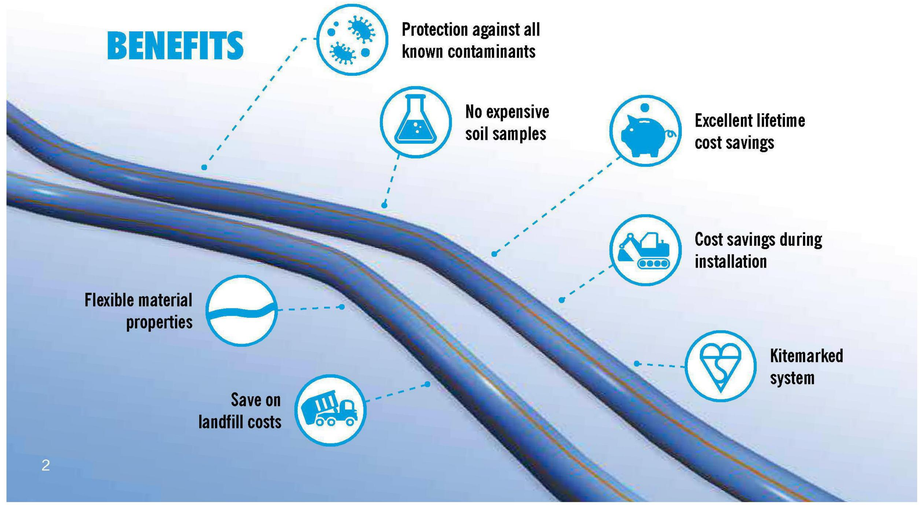
Protecta-Line is the original barrier pipe system that you can trust to transport drinking water through contaminated land. It has been tried and tested by water companies and housebuilders for more than 20 years.

It has been proven over that time to maintain long term safety of supply and keep water safe from surrounding contaminants.

It is the most widely installed barrier pipe system in the UK.

There is no other system that has been developed hand-in-hand with contractors and installers over such a long term. The present day system has attained the highest standards of quality approval and represents a comprehensive barrier pipe solution, incorporating a full range of dedicated, approved fittings.

Put simply, why would you risk using anything else?



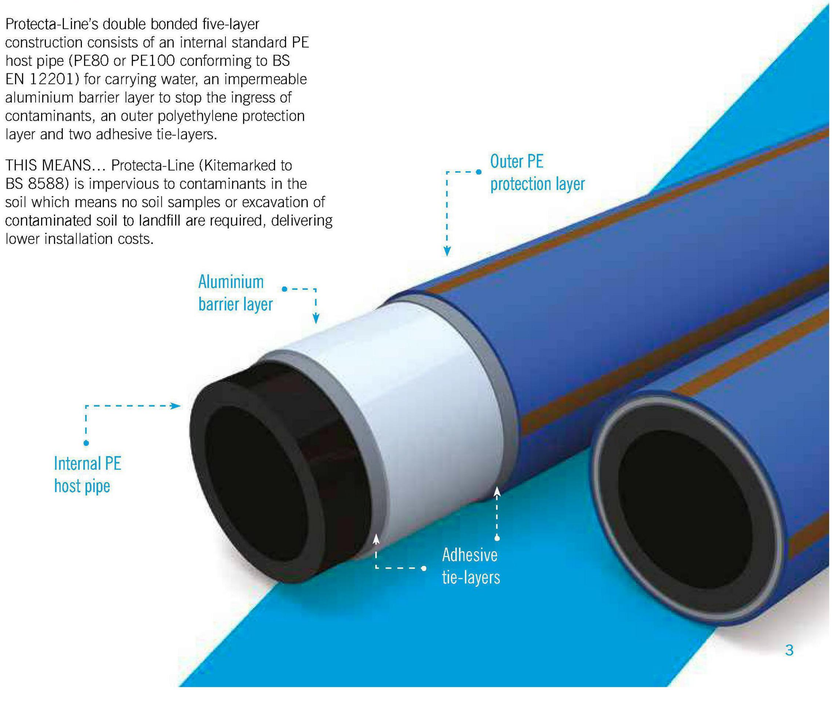
PROTECTA-LINE...

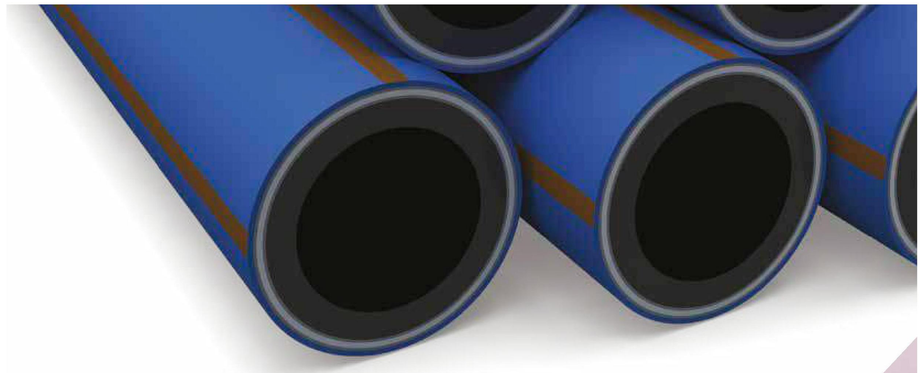
- provides proven protection against all recognised brownfield contaminants, both organic and inorganic, even in their maximum reported concentrations.
- is suitable for corrosive conditions.
- ensures peace of mind. As a proven solution for more than 20 years, water companies and other installers can be confident in its performance.
- includes a fully integrated range of pipe and approved dedicated fittings.
- may be used for trenchless installations or subjected to cold bending.

SAFE, EFFECTIVE AND PROVEN TO PROTECT

Protecta-Line's double bonded five-layer construction consists of an internal standard PE host pipe (PE80 or PE100 conforming to BS EN 12201) for carrying water, an impermeable aluminium barrier layer to stop the ingress of contaminants, an outer polyethylene protection layer and two adhesive tie-layers.

THIS MEANS... Protecta-Line (Kitemarked to BS 8588) is impervious to contaminants in the soil which means no soil samples or excavation of contaminated soil to landfill are required, delivering lower installation costs.





PRODUCT RANGE OVERVIEW

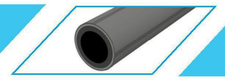
Protecta-Line Pipe is designed to safely transport drinking water in contaminated land. The approved pipe range is from 25mm to 630mm diameter with working pressures up to 16 bar.

It is a complete, approved system, used with confidence by installers for more than 20 years.

Over the following pages you can see the full range of pipe and fittings available.



DESCRIPTION

PROTECTA-LINE PIPE		PE barrier pipe for water distribution through contaminated land
PROTECTA-LINE 3C & 3CTH COILS		Clean, capped and coiled PE barrier pipe for installation without pre-chlorination
MECHANICAL COMPRESSION FITTINGS		Mechanical compression fittings for service connections
FERRULE OFF-TAKES		Ferrules for live off-takes with minimal flow restrictions
MECHANICAL FITTINGS		Mechanical compression fittings for mechanical jointing without the need for pipe preparation or welding
ELECTROFUSION FITTINGS		Electrofusion fittings with a bar coding system for rapid and convenient jointing
PUPPED FITTINGS		Extended spigots suitable for electrofusion and butt-fusion jointing



STANDARDS/APPROVAL	MATERIAL	SIZE RANGE
BS 8588 WIS 4-32-19 Regulation 31/33 WRAS BS EN 12201 (core pipes)	Polyethylene Aluminium	25mm – 630mm (SDR11) 90mm – 630mm (SDR17)
BS 8588 WIS 4-32-19 Regulation 31/33 WRAS BS EN 12201 (core pipes)	Polyethylene Aluminium	90mm – 180mm
BS 8588 WIS 4-32-19 WRAS	Acetal	25mm – 63mm
BS 8588 WIS 4-32-19 WRAS	Gunmetal Acetal Stainless steel	25mm & 32mm (for 63mm – 355mm mains) 63mm (for 90mm - 355mm mains)
BS 8588 WIS 4-32-19 WRAS	Stainless steel Rilsan coated steel	63mm – 180mm
BS 8588* WIS 4-32-19* WRAS	Polyethylene	90mm – 630mm
WRAS (pipes and spigots)	Polyethylene	90mm – 630mm

*90mm - 355mm electrofusion fittings are Kitemarked

FITTINGS



MECHANICAL COMPRESSION FITTINGS

For 25mm to 63mm Protecta-Line



BENEFITS

- Proven barrier protection against contamination
- No contact between the pipe's protective aluminium layer and drinking water
- No risk of joint corrosion
- Easy and rapid all weather installation

FERRULE OFF-TAKES

For 63mm to 355mm Protecta-Line



BENEFITS

- No disruption to water supply
- Secure isolation of drinking water from ground contaminants
- Simple, all-weather installation with no scrapping or pipe preparation required
- Excellent headloss and flow characteristics
- Proven mechanical compression connections
- Innovative self-locking thimble design



MECHANICAL FITTINGS

For 63mm to 180mm Protecta-Line



BENEFITS

- Fast and easy all-weather jointing by a single installer
- No need for elastomeric seals, pipe-end preparation or welding.
- Only a torque wrench with an Allen (hex) bit socket is required
- No need for specialist tooling (eg. hydraulic pump) or external power supply – reduced health & safety risk
- Can be installed in the tightest of spaces

ELECTROFUSION FITTINGS

Electrofusion fittings for Protecta-Line



BENEFITS

- Easy and rapid installation
- Can be carried out in a trench, especially useful for repairs or tie-ins
- Proven barrier protection against contamination
- No risk of joint corrosion
- No contact between the pipe's protective aluminium layer and drinking water

PUPPED FITTINGS

Prefabricated fittings for Protecta-Line



BENEFITS

- Bespoke fabrications can be made
- Full barrier performance
- Flexibility to construct a pipeline to individual project needs
- Fully homogeneous pipeline (with fused joints)

CASE STUDIES



WIXAMS DEVELOPMENT

CHALLENGE

One of the largest developments created in the UK since World War 2 will house 4,500 families and include homes, amenities and educational facilities. The site was previously used as a munitions works and Anglian Water identified elevated levels of ground contamination.

Due to potential risks of water contamination, Anglian Water stipulated that barrier pipe must be installed for the water mains.



SOLUTION

Anglian Water has turned to us for help. As a result, more than 4km of Protecta-Line barrier pipe is being installed by Anglian Water's approved contractors, Achiva Limited, to cater for all of the water distribution needs for the development.

More than 3km of a mix of larger diameter 450mm and 355mm Protecta-Line has been installed through the spine of the development, with smaller spurs of 225mm and 180mm coming off into the housing estates, before dropping down to 90mm as it goes into the cul-de-sacs to supply each individual property.

Currently all open field land, there was no space or logistic restrictions with the installation, which has allowed the pipeline to be installed using an open cut installation and butt fusion jointing technique, which offered a quick and simple installation process.

Commenting on the scheme, Simon Pink, Project Engineer at Anglian Water, said: "We have used Protecta-Line successfully on other schemes, so we knew that it would provide a reliable and safe solution for Wixams. **The pipe system was much easier to handle on site, compared with ductile iron, and offered us a much quicker and simpler installation process.**"



PEMBROKE REFINERY

CHALLENGE

As with all industrial chemical sites, Valero's Pembroke Refinery faced the risk of soil contamination, which had health and safety implications for the supply of drinking water to the facility. In addition, many of the original metallic pipes had deteriorated and become prone to leaks and bursts. The refinery needed to implement a water network renewal programme.

SOLUTION

The refinery selected Protecta-Line barrier pipe system to replace existing metallic pipes. In some areas of the site, putting a bypass in place was simply not viable, therefore, the project team opted to slipline some of the existing metallic pipes with Protecta-Line which proved to be an efficient and cost-effective solution that minimised operational disruption.

On these sections, 110mm Protecta-Line pipe was inserted into the existing, corroded six inch carbon steel pipe using a cable to pull the new pipe into position. A range of Protecta-Line fluid compression fittings were also installed to ensure the integrity of the contamination barrier, without the need for any special procedures, including couplers, elbows, tees and stub flanges.

Protecta-Line stop cocks and self-tapping ferrule off-takes were also used, which enabled live off-takes of Protecta-Line service connections without any flow restrictions. **Alongside the need to renew the infrastructure, there was a clear focus on upgrading the pipeline to ensure it met the current regulatory requirements; fully WRAS and Regulation 31 approved for supply of drinking water, Protecta-Line was the ideal solution.**

MORRISONS BRIDGEWATER

CHALLENGE

This 75,000 square metre distribution centre serves the supermarket chain's network of stores in the South West and forms part of an £11 million regeneration scheme, including up to 2,000 new homes. The development is located on a mixed brownfield and greenfield site, which combines redundant industrial land with farmland.

The mains connection for the scheme is at the front of the site where there is a railway line and a chemical factory. Bob Wood from Wessex Water explained: "While stringent controls limit the contaminants from the factory now, historically they have been varied and significant. Trial holes across the site were tested for contamination and, while contaminants were not found over a large proportion of the site, the high water table did present the risk of migration of contaminants across a wider area."

SOLUTION

It was these concerns over the potential for contaminants to be carried to 'safe' soil areas by tidal waters on the flood plain site that prompted Wessex Water to specify 355mm Protecta-Line pipe system for a new main running across the distribution centre site, including the footprint of the building and access roads.

Around 1,200m of Protecta-Line was used in SDR17, providing up to 10 bar pressure capability which allows for additional capacity to be factored into the installation.

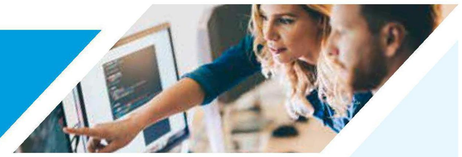
Wessex Water installed the pipe into open trenches, incorporating T-joints to allow take-offs of supply to be added at a future date. All joints were made by butt-fusion and the installation team prepared the pipes using the Protecta-Line Surprep tool to scrape away the outer layers. Wessex Water continued its practice of wrapping the joints using aluminium foil and Denso tape throughout the Protecta-Line installation.

Away from the Protecta-Line spine main, the site is not at risk of contamination so ordinary PE pipe was used with steel mechanical fittings to create the joints between the two materials. Bob adds: "**Even a small risk of contaminant migration makes it prudent to specify an effective barrier pipe. Protecta-Line safeguards against ingress of all known contaminants and is our preferred barrier pipe solution so this specification means that we can be confident of a safe water supply.**"

ADDED VALUE SERVICES



SPECIFICATION & DESIGN ADVICE



Our experienced pipeline engineers offer specification guidance and material estimates, and provide advice and recommendations during the design stage of a new pipeline scheme to ensure the most appropriate system is designed for each individual application.



CUSTOMER SERVICES

We pride ourselves on the high level of customer service we provide to each and every customer. Our Customer Service team offers support at every stage of a project, advising on lead-times, logistics and delivery requirements, managing the supply chain process from the point of order through to installation.

TECHNICAL SUPPORT



Providing assistance to the entire customer supply chain, our experienced technical support team offer product training, jointing demonstrations and installation advice to support the successful completion of every project.

ALL YOU NEED TO KNOW ABOUT HEALTH, SAFETY, QUALITY & ENVIRONMENT

STANDARD/APPROVAL	TITLE	APPLICABLE TO GPS PRODUCTS
Regulation 31/33	The Water Supply (Water Quality) Regulations (England/Wales/Scotland/NI)	All drinking water pipes
The (Water) Regulators Specification & The Water Supply (Water Fittings) Regulations 1999	The (Water) Regulators Specification & The Water Supply (Water Fittings) Regulations 1999	All pipe materials. All fitting materials. All PE100 fittings and matching pipes. All Protecta-Line fittings and matching Protecta-Line pipes
BS EN 12201	Plastics piping systems water supply, and for drainage and sewerage under pressure – Polyethylene (PE)	Blue and black PE80 and PE100 pipes and fittings in sizes up to 1200mm
WIS 4-32-19	Polyethylene pressure pipe systems with an aluminium barrier layer for potable water supply in contaminated land sizes	25mm to 630mm – Protecta-Line pipe and fittings
BS 8588	Polyethylene pressure pipe with an aluminium barrier layer and associated fittings for potable water supply in contaminated land	25mm to 630mm - Protecta-Line pipe and fittings
WIS 4-32-08	Specification for the fusion jointing of polyethylene pressure pipeline systems using PE80 and PE100 materials	Butt fusion and electrofusion jointing of blue and black PE80 and PE100 pipes and fittings
BS 6920 Part 1	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on water – Part 1: Specification	All pipe materials. All fitting materials. All PE100 fittings and matching pipes. All Protecta-Line fittings and matching Protecta-Line pipes All pipe materials. All fitting materials.
BS 6920 Part 2	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on water – Part 2: Methods of test	All PE100 fittings and matching pipes. All Protecta-Line fittings and matching Protecta-Line pipes. All pipes
BS 6920 Part 4	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on water – Part 4: Method for the GCMS identification of water leachable organic substances	All pipes
ISO 4427	PE pipes for water supply	Blue and black PE80 and PE100 pipes and fittings
BS EN 15494	Specifications for polyethylene components and systems	Blue and black PE80 and PE100 pipes and fittings up to 1200mm
BS EN 805	Water supply – requirements for systems and components outside buildings	External water supply installations
BS 5306 – Part 2	Fire extinguishing installations and equipment on premises	Blue and black PE80 and PE100 for external buried fire mains
WIS 4-22-02	Specification for ferrules and ferrule straps for underground use	Protecta-Line ferrules
WIS 4-24-01	Specification for mechanical fittings and joints including flanges for polyethylene pipes for the conveyance of cold potable water for the size range 90 to 1000mm including those made of metal or plastics or a combination of both	Stub flanges, SlimFlange and Protecta-Line Mechanical Fittings

ENVIRONMENT

GPS operates an environmental management system in accordance with the requirements of BS EN ISO 14001. The system is audited twice a year by the BSI.

GPS continually monitors its business activities with the aim of minimising their impact on the environment. A number of on-going waste minimisation projects have been implemented in areas such as energy usage, product packaging and landfill waste.

A continual improvement culture is promoted within the company by setting environmental targets and objectives that are regularly monitored and reviewed.



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Distributor

REF? August 2018

an Aliaxis company

APPENDIX D

BS5837 Report

Birch Trees Farm

Birch Trees Farm

Retention Category	No. trees
A	4
B	4
U	3
Total	11

Rem. Contrib.	No. trees
<10 years	2
30+ Years	1
50+ Years	7
Not Recorded	1

PHOENIX FORESTRY

Ref.	Species	Full Structure	Measurements	Survey Notes	Retention Category	RPA	Comments	Measurements2	Recommendations	Photo
T001	Red oak *(Quercus rubra)*	Tree	Height (m): 15 Stem Diam(mm): 380 Spread (m): 2N, 4E, 6S, 2W Life Stage: Early Mature Rem. Contrib.: 50+ Years		A2	Radius: 4.6m. Area: 66 sq m.		Other Reference: Physiological Condition: Good Structural Condition: Good Distance1: Distance2: You customise: Public Amenity Value: Good Inspection Limitations: None Bat Habitat: None	Pre construction: No action required RPA outside of proposed development area During construction: Protect trees with protective barriers - as shown on plans. Post construction: No action required.	 Red oak, leaning approx.10' to south
T002	Pedunculate oak *(Quercus robur)*	Tree	Height (m): 14 Stem Diam(mm): 300 Life Stage: Semi Mature Rem. Contrib.: 50+ Years	Good/Fair overall Physiological and Structural condition. Twin stem forking at 4m. Historic branch suppression by trees previously removed. Minor dieback at 4m. Recent pruning to remove storm damaged branch Fungus: None obvious or apparent Pests and Diseases: None obvious or apparent	B	Radius: 3.6m. Area: 41 sq m.		Other Reference: Physiological Condition: Fair Structural Condition: Fair Distance1: Distance2: You customise: Public Amenity Value: Good Inspection Limitations: Bat Habitat: None	Pre construction: No action required. During construction: Protect trees with protective barriers - as shown on plans.	
T003	Pedunculate oak *(Quercus robur)*	Tree	Height (m): 14 Stem Diam(mm): 300 Spread (m): 1N, 5E, 6S, 1W Crown Clearance (m): 4 Lowest Branch (m): 4 Life Stage: Semi Mature Rem. Contrib.: 50+ Years	Fair overall Physiological and Structural condition. Historic suppression by other trees on north and west aspects. Multiple leaders in crown. Early ivy growth to 4.5m. Neighbouring tree removed due to ash dieback disease. Fungus: None obvious or apparent Pests and Diseases: None obvious or apparent	B	Radius: 3.6m. Area: 41 sq m.	This tree will not have to be removed to facilitate a proposed future development.	Other Reference: Physiological Condition: Fair Structural Condition: Good Distance1: Distance2: You customise: Public Amenity Value: Moderate Inspection Limitations: Access Bat Habitat: None	Pre construction: No action required. During construction: Protect trees with protective barriers - as shown on plans.	 Oak suppressed by adjacent ash
T004	Magnolia *(Magnolia sp.)*	Tree	Height (m): 3 Stem Diam(mm): 170 Life Stage: Semi Mature Rem. Contrib.: 30+ Years	Heavily prune leader. Ornamental tree. Fungus: None obvious or apparent Pests and Diseases: None obvious or apparent	B	Radius: 2.0m. Area: 13 sq m.		Other Reference: Physiological Condition: Good Structural Condition: Fair Distance1: Distance2: You customise: Public Amenity Value: Moderate Inspection Limitations: None Bat Habitat: None	Pre construction: No action required. During construction: Protect trees with protective barriers - as shown on plans.	

Ref.	Species	Full Structure	Measurements	Survey N
T005	Beech *(Fagus sp.)*	Tree	Height (m): 15 Stem Diam(mm): 330 Spread (m): 4N, 4E, 4S, 4W Life Stage: Early Mature Rem. Contrib.: 50+ Years	Good overall Physiol Structural condition. Fungus: None obvious or app Pests and Diseases: None obvious or app
T006	Maple 'Schwedleri' *(Acer platanoides 'Schwedleri')*	Tree	Height (m): 15 Stem Diam(mm): 370 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 4 Lowest Branch (m): 4.5 Life Stage: Semi Mature Rem. Contrib.: 50+ Years	Good overall Physiol Structural condition. Fungus: None obvious or app Pests and Diseases: None obvious or app
T007	Copper beech *(Fagus sylvatica purpurea)*	Tree	Height (m): 14 Stem Diam(mm): 380 Spread (m): 4.5N, 5E, 2S, 3W Crown Clearance (m): 6.5 Lowest Branch (m): 4.5 Life Stage: Early Mature Rem. Contrib.: 50+ Years	Good overall Physiol Structural condition. Limbs pruned at 2.3 some wound wood c
T008	Common ash *(Fraxinus excelsior)*	Tree	Height (m): 17 Stem Diam(mm): 40 Spread (m): 5N, 5E, 5S, 5W Crown Clearance (m): 7 Lowest Branch (m): 7 Life Stage: Mature	Early signs of Ash die hymenocyphyus frax Suppressing oak to e beech to west. Pests and Diseases: Ash Health Class 1 - 1 remaining canopy
T009	Apple (M…	Tree	Height (m): 5 Stem Diam(mm): 180 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 1	

Ref.	Species	Full Structure	Measurements	Survey N
T011	Horse chestnut *(Aesculus hippocastanum)*	Tree 5 stems	Height (m): 13 5 stems, avg.(mm): 120 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 4 Lowest Branch (m): 4 Life Stage: Semi Mature Rem. Contrib.: <10 years	Lapsed pollard. Poor overall Physiolc Structural condition. pollardnunions.

Arboricultural Report to BS5837

Site Address: Birch Tree Farm

Owners Anne & Robin Upton

Date: 7th September 2025

Prepared by: Jamie Kirkman Arboricultural Association PTI, RFS Cet.Arb.

Tel:07984863559 Email: Jamie@phoenixforestry.co.u. Website: Phoenixforestry.co.uk

1. Introduction

This Arboricultural Report has been prepared in accordance with the guidelines set out in BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations". The purpose of this report is to provide an assessment of the trees on the site at Birch Tree Farm and to offer recommendations for their management in relation to the proposed development.

2.Site Description

Birch Tree Farm is a rural property comprising a blend of open meadows and woodland areas. The site supports a diverse range of tree species, including mature individuals that make substantial contributions to the local landscape and biodiversity. The landowners demonstrate a strong commitment to the treescape, as evidenced by the arboretum-style layout and woodland plantings distributed throughout the 7-acre property.

3. Tree Survey

A tree survey of the proposed construction site was conducted, with the following key information being recorded for each tree:

Tree Number: Unique identifier for each tree.

Species: Botanical name and common name.

Height: Estimated height in metres.

Diameter at Breast Height (DBH): Measured at 1.5 metres above ground level.

Crown Spread: Estimated spread of the tree's canopy.

Age Class: Young, semi-mature, mature, over-mature.

Physiological Condition: Good, fair, poor, dead.

Structural Condition: Good, fair, poor, hazardous.

Preliminary Management Recommendations: Any immediate actions required.

Only trees within the immediate vicinity of the proposed site were surveyed.

4. Tree Species Present

The proposed construction site at Birch Tree Farm includes a variety of tree species. The following species were identified during the survey:

Quercus robur (Common Oak)

Quercus rubra (Red oak)

Acer pseudoplatanus Schwederii (Purple leaved Norway maple)

Fraxinus excelsior (Ash)

Fagus sylvatica (Beech)

Prunus avium (Wild Cherry)

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Maluss pp. (Crab apple)

Aesculus hippocastanum – Horse chestnut

5. Tree Constraints Plan

A Tree Constraints Plan (TCP) has been prepared to illustrate the constraints imposed by the trees on the site. This includes the Root Protection Areas (RPAs) and the canopy spreads. The TCP is essential for informing the design process and ensuring that the proposed development respects the existing trees.

6. Arboricultural Impact Assessment

The Arboricultural Impact Assessment (AIA) evaluates the potential impact of the proposed development on the trees. It considers factors such as:

Tree Retention: Identifying trees that can be retained and protected during construction.

Tree Removal: Identifying trees that need to be removed due to their condition or to facilitate the development.

Construction Activities: Assessing the impact of construction activities on the retained trees, including root damage and soil compaction.

Root Protection Areas (RPAs): Confirming that the proposed dwelling will not impact the RPAs of any of the trees.

7. Arboricultural Method Statement

The Arboricultural Method Statement (AMS) outlines the measures to be taken to protect the retained trees during the construction process. The recommendations can be found in the attached Survey Data Sheets.

Protective Fencing: Install protective fencing around the Root Protection Areas (RPAs) of retained trees. The RPAs are indicated in green on the accompanying plan, and the fencing should closely follow these boundaries.

Ground Protection: Installing ground protection measures to prevent soil compaction.

Construction Exclusion Zones: Establishing zones where no construction activities are permitted.

Tree Protection Monitoring: Regular monitoring of tree protection measures by a qualified arboriculturist.

8. Conclusion

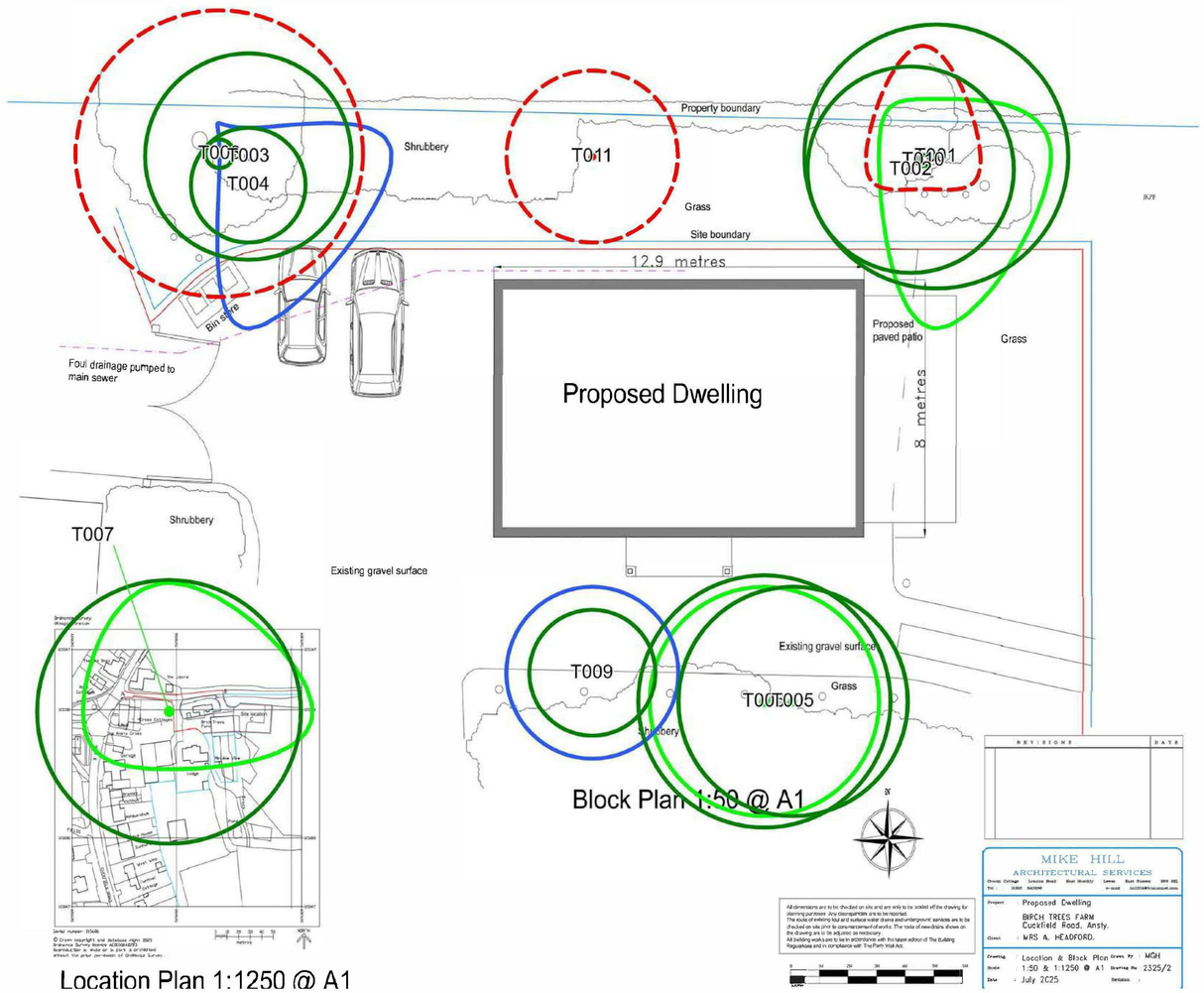
The trees at Birch Tree Farm are an important asset to the site and the local environment. By following the recommendations in this report and adhering to the guidelines set out in BS5837:2012, the proposed development can proceed while ensuring the protection and preservation of the existing trees. It is confirmed that the proposed dwelling will not impact upon the RPAs of any of the trees nor will the trees impact upon proposed development in the future.

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Please see attached plan and Survey Data report for more details.

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Retention Category

- Category A
- Category B
- Category C
- Category U
- RPA

Fencing of Root Protection Area to be installed as per RPA shown in green.