Remediation Strategy

30 Melling Street

Manchester

M12 4PH

Date: 14th September 2026

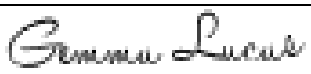
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1 *INTRODUCTION*

1.1 Background

This report presents the Remediation Strategy associated with the redevelopment of land located at 30 Melling Street, Manchester, M12 4PH. The proposed development is for the construction of 3 no. terraced houses.

1.2 Supporting Information

The following reports haves been prepared for the site by EnviroSolution and others:

- EnviroSolution, 30 Melling Street, Manchester, M12 4PH, Phase 1 Environmental Site Assessment Report, Version 5, ES03948, 24th July 2026.
- EnviroSolution, 30 Melling Street, Phase 2 Geo-Environmental Ground Investigation Report, ES04257, Version 1, 4th September 2026.

These reports provide good coverage and characterisation of the site, and it is recommended that they are read in conjunction with this document, as the information presented provides the basis for the conceptual understanding of the site.

1.3 Requirement for Remediation

The ground investigation identified the presence of Made Ground across the site with a recorded thickness of between 0.30m and 0.55m.

Some substances have been detected in the Made Ground beneath the site at concentrations in excess of human health criteria. They include:

- Benzo(a)anthracene in TP1 and TP2 at 0.30m.
- Chrysene in TP1 and TP2 at 0.30m.
- Benzo(b)fluoranthene in TP1 at 0.30m and 0.60m and TP2 at 0.30m and 0.50m.
- Benzo(a)pyrene in TP1 at 0.30m and 0.60m and TP2 at 0.30m and 0.50m.
- Dibenzo(ah)anthracene in TP1 at 0.30m and 0.60m and TP2 at 0.30m and 0.50m.
- Lead in TP1 at 0.30m and 0.60m and TP2 at 0.30m and 0.50m.

Asbestos in the form of chrysotile loose fibres were detected in TP1 and TP2 within the Made Ground at a depth of 0.30m bgl. Quantification testing identified that the samples contained <0.001% asbestos. UK guidance (ICRCL 64/85 ver2) notes that 0.001% asbestos in soil can exceed occupational exposure limits (0.1 f/ml air). Therefore, there is limited potential for human health impacts to occur if the impacted soil remains present in the shallow soils beneath the site if the soil is exposed at the surface in the future.

If soft landscaping is proposed within the amenity areas there would be the potential for exposure to future site users to the identified contaminants of concern via inhalation, dermal contact and ingestion pathways if the contaminants remain present within the shallow soils following redevelopment. Therefore, remedial measures will be required in these areas in order to eliminate exposure risks

Ground gas risks have been assessed to be ‘very low risk’. As such gas protection measures will not be required in the new development.

The risk to controlled water has been assessed to be negligible and therefore no remedial measures will be required for the protection of controlled water receptors.

2 *REDMEDIATION OPTIONS*

2.1 Clean Cover System

The remedial objectives are to ensure that a safe and suitable development platform is provided for the proposed land use, by removing all identified potential human health pollutant linkages.

The remediation should comprise the importation of a clean cover system to be laid down in all areas of soft landscaping in the new development. This should comprise a minimum 600mm of clean soils (including a minimum 150mm certified clean topsoil) with a demarcation geotextile layer for any Made Ground that remains present below the clean cover in the proposed soft-landscaping and garden areas.

There may the requirement to excavate some of the Made Ground and take this off-site for disposal to achieve the required site levels.

Information on the formation of the cover system is presented in **Appendix A**.

Verification of all imported soils will be required as detailed in Section 3.1.

2.2 Earthworks

All earthworks should be undertaken under a watching brief by an experienced person. Any imported topsoil materials will require validation testing to confirm that they are suitable for use. The frequency and nature of this testing is discussed in Section 3.1.

Any surplus material that is generated will require off-site disposal. Prior to waste disposal discussions with an appropriate waste sub-contractor or landfill will be required to identify the correct route for disposal. A hazardous waste assessment may be required along with Waste Acceptance Criteria Testing.

Any Made Ground should be segregated from clean natural soils.

2.3 Unexpected Ground Conditions

If any materials containing unexpected visual or olfactory contamination is encountered, then the groundworks should stop, and the Local Planning Authority should be informed.

Testing in accordance with the frequencies outlined in Section 3.1 will be required to confirm what it is and if it the impacted material would be suitable for re-use on site.

Areas of unexpected contamination should be highlighted on a plan and the testing results incorporated into the verification report (see Section 3.3). The material should only be re-used if it is within the screening criteria (see Section 3.2).

There should be a designated storage area for non-conforming soils.

2.4 Health and Safety Considerations

During the redevelopment of the site, it will be necessary to implement measures to protect construction workers, and adjacent site users from the contamination identified on the site. In addition, to ensure that they do not encounter contaminated soils and groundwater, construction workers and site visitors will wear appropriate personal protective equipment (PPE). Health and safety

procedures should ensure that ingestion of contaminated soils and groundwater is avoided (e.g. by washing hands prior to eating, drinking, and smoking).

Given the proximity of residential properties in the surrounding area the control of fugitive dust will be a priority. As a minimum, the works should be undertaken in accordance with best practice guidance and the following measures undertaken to assist with control of dust generation:

- Regularly damping down with water of access roads and stockpiles.
- A wheel washing facility for vehicles entering and leaving the site during the construction period to pass through.
- Use of enclosed or tarpaulined vehicles to transport materials and aggregates.
- Regular cleaning of local roads.
- Vehicle movements kept to a minimum and vehicle speeds within the site limited.
- Location of dust generating equipment (e.g. mobile crushing and screening equipment) to be positioned such that potential nuisance impacts to receptors are minimised, as far as practicable.

3 *VALIDATION AND VERIFICATION*

3.1 Validation Testing

3.1.1 Site Won Materials

Validation for site won materials is not required, except where unexpected contamination is encountered. This should be undertaken to ensure that the materials are suitable for re-use on site. It is recommended that sampling is undertaken at a frequency of one sample per 50m^3. Results should be compared to the respective soil quality criteria (see Section 3.2).

3.1.2 Imported Materials

Validation of imported materials will be required. This should be undertaken at a frequency of one sample per 50m^3. A minimum of 3 no. samples should be taken for greenfield source of imported materials or a minimum of 6 no. samples should be taken for a brownfield source of imported materials.

The material should be compliant with BS3882:2015 "Specification for Topsoil" and the soil quality criteria presented in Section 3.2 in order to protect the rooting zone and human health.

The material should be compliant with BS3882:2015 ***"****Specification for Topsoil"* and the soil quality criteria presented in Section 3.2 to protect the rooting zone and human health.

Comparison of the results should be made with the soil quality criteria (see Section 3.2). If any exceedances are found, then the material should not be used on the site.

It is recommended that validation of imported soils is undertaken at the source of the material to ensure that the material is suitable for use prior to importation to site. If the sampling of the imported materials is to be undertaken prior to importation to site, the respective quantity of materials should be stockpiled/isolated at source whilst the laboratory testing is being undertaken. This should ensure that the laboratory test results remain representative of the materials to be imported. Delivery certificates should be retained.

Validation certificates and documentation will be retained and included within the verification / completion report for all imported materials. Where validation is undertaken at source subsequent delivery notes should be retained for all imported material and copies included in the completion report to ensure corroboration of site delivered materials with those sampled.

3.1.3 Testing Requirements

Sufficient time should be allowed for sampling, analysis and the decision-making process required to meet the remediation objectives. Sampling must be undertaken by a suitably qualified environmental professional (i.e. Environmental Scientist/Engineer) or experienced chemist. A standard turnaround for the chemical analysis of soil samples is 7 working days. A contract must be set up in advance with an MCERTS laboratory. The analytical suite must include a minimum of heavy metals, speciated PAH, total TPH, pH and asbestos ID.

3.1.4 Cover System Verification

Photographs should be taken within the plot following the placement of the geotextile layer but before the placement of the clean soil.

All photographs and records should be retained for inclusion within the verification report.

3.2 Soil Quality Criteria

Any topsoil materials to be utilised on site should meet the Soil Quality Criteria in **Appendix B**. As the controlled waters risk assessment has concluded that the risks to groundwater and surface water bodies are low, the quality criteria for the site is based on mitigating risks to human health rather than leachability criteria.

The soil quality criteria comprise a combination of:

- CLEA SGVs
- LQM 'Suitable for Use Levels'
- LQM 'Category 4 Screening Levels'

All materials to be used in areas of soft landscaping must meet the soil quality criteria for residential land use with plant uptake.

If asbestos is identified, then the contaminated material must not be re-used. If widespread asbestos containing materials (ACM) are identified during the groundworks the procedure outlined in Section 2.3 for unexpected contamination should be followed.

3.3 Verification Report

Following completion of the remedial works, verification of the works must be included in the Verification Report. This report should include the following items (where applicable):

- Chemical certificate(s) of analysis for imported materials.
- Confirmation of source and quantity of material imported to site and delivery certificates/notes.
- Measurements of topsoil thickness, confirming a minimum of 600mm clean soil.
- Summary data plots and tables relating to verification assessment criteria.
- Photographic evidence of implementation of remedial actions.
- Waste management details and records (including waste transfer notes for any materials removed from site).
- Confirmation that remediation objectives and criteria have been achieved.

On completion, a set of as-built drawings should be produced along with relevant information to show that the site is suitable for its intended use.

All the information shall be collected by the contractor, and issued to the Client or the Client's representative, who on completion should complete an independent assessment of the results and produce a final verification report. The verification report should form part of the operations and maintenance manual and health and safety file for the site to be held by future site operators and to be used for any future development.

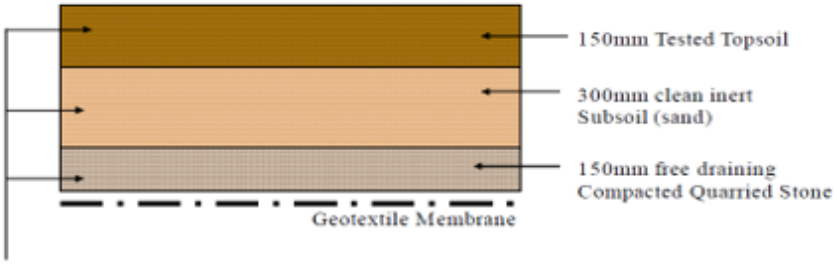
APPENDICES

APPENDIX A

Cover System Information

Cover System Design

A 600mm capping layer consisting of 'clean' imported, tested material should be placed in all gardens and landscaped areas with hardcover protecting the remainder of the site, therefore breaking all the source-pathway-receptor linkages. The capping layer materials are indicated on image below:



All imported material is to be tested prior to importing to site and once on site. Depth testing is to be undertaken once material is placed.

The other design considerations, which need to be taken into account, are:

- Material used for cover system - A good quality cover should be used incorporating a topsoil layer, ideally at least 150mm thick or 30% of the cover, whichever is greater. Reference should be made to the Specification for Topsoil, BS3882:2015.
- Treatment of underlying ground - The ground should be suitably compacted prior to the placement of the cover system. This will inhibit root penetration, infiltration, burrowing animals and instability but should not be allowed to induce water logging.
- Provision of capillary break layer – The provision of a capillary break layer would control the upward movement of dissolved and/or mobile contaminants during dry weather. It would also reduce the degree of inter-mixing of the soils and so provide an additional factor of safety.
- Provision of physical barrier at base of cover system or visual marker – The provision of a physical barrier or visual marker would discourage excavation below the cover system and again reduce the degree of intermixing of the soils. This may be provided using a synthetic material (e.g. geogrid or geotextile) or compacted granular free draining material. The geotextile or the compacted layer would also reduce root penetration. Compacted granular free draining material will be adopted as the physical barrier layer.
- Material adopted for the capillary break layer would be quarried material, 50mm single size.

The above remediation would break the existing source-pathway-receptor linkage at the site.

APPENDIX B - Soil Quality Criteria

Substance	Residential with Homegrown Produce (mg/kg)
Arsenic	37
Cadmium	11
Chromium	910
Copper	200**
Lead	200
Mercury	40
Nickel	110**
Selenium	250
Zinc	300**
Aliphatics >C5-C6	42
Aliphatics >C6-C8	100
Aliphatics >C8-C10	27
Aliphatics >C10-C12	130
Aliphatics >C12-C16	1,100
Aliphatics >C16-C21	65,000
Aliphatics >C21-C35	65,000
Aliphatics >C35-C44	65,000
Aromatics >EC5-EC7	70
Aromatics >EC7-EC8	130
Aromatics >EC8-EC10	34
Aromatics >EC10-EC12	74
Aromatics >EC12-EC16	140
Aromatics >EC16-EC21	260
Aromatics >EC21-EC35	1,100
Aromatics >EC35-EC44	1,100
Aromatics >EC40-EC44	1,100
Acenaphthene	210
Anthracene	2,400
Benz(a)anthracene	7.2
Benzo(b)fluoranthene	2.6
Benzo(k)fluoranthene	77
Benzo(a)pyrene	2.2
Benzo(g,h,i)perylene	320
Chrysene	15
Fluoranthene	280
Fluorene	170
Indeno(1,2,3-cd)pyrene	27
Phenanthrene	95
Pyrene	620
Naphthalene	2.3
Dibenzo(a,h)anthracene	0.24

Notes

Soil Quality Criteria = CLEA SGVs, LQM 'Suitable for Use Levels', LQM 'Category 4 Screening Levels'.

**BS3882:2015