



Claremont road elevation



EARTH ENVIRONMENTAL
& GEOTECHNICAL

Asbestos Management Plan

Claremont Road

Manchester

January 2019

On behalf of



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ASBESTOS MANAGEMENT PLAN

CLAREMONT ROAD

MANCHESTER

Report Ref: A2212/19/AMP

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Prepared on Behalf of:

Jordan Contractors Ltd

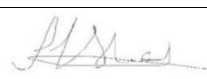
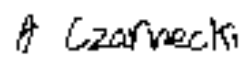
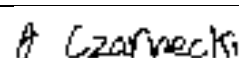
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Jordan Contractors Ltd

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1.0 INTRODUCTION

Earth Environmental and Geotechnical Ltd (EEG Ltd) have been instructed by Jordan Contractors Ltd. to prepare an Asbestos Management Plan for the site on at 492-494 Claremont Road, Manchester, M14 5AB.

Proposed Development

It is understood that the Client proposes to construct 7no. two-storey residential houses with associated private gardens, driveways and utility infrastructure.

Background

EEG Ltd have previously prepared the following reports for the site:

- Phase I Geo-Environmental Assessment Report, Claremont Road, A2212/17, September 2017
- Phase II Geo-Environmental Investigation Report, Claremont Road, A2212/19/B.0, January 2019
- Remediation Strategy (Reference A2212/19/RMS), January 2019

The Phase II site investigation report provided an assessment of the chemical testing results in relation to protection of future residential end users and construction workers, together with a classification of material for off site disposal.

The site investigation identified exceedances of Lead, dibenz(a,h)anthracene and Naphthalene in the Made Ground soils when compared to screening criteria relevant to residential end use with plant uptake.

Asbestos was also detected at two locations; WS1 at 0.30m as microscopic loose fibres of Chrysotile (0.055% by mass) and WS4 at 0.40m as a Chrysotile fibre bundle (<0.001% by mass).

Remediation in the form of capping with a minimum 600mm of clean cover with an appropriate physical barrier at the base of the capping layer, to act as a no dig layer for future residents is considered sufficient to protect end-users from underlying Made Ground that may contain contamination and asbestos. A capping layer is not required below areas of hard standing, such as roads, drives and houses as the hard cover will break the pollutant linkage pathway.

However, an Asbestos Management Plan (AMP) is required for the proposed residential development at Claremont Road, Manchester, to protect construction workers and site neighbours from the risks associated with airborne asbestos fibres during the construction phase and enabling works. The construction works will involve removal of the existing asphalt surface cover to expose the underlying Made Ground soils, excavations for foundations and drainage emplacement, and general soil movement within the areas in which asbestos has been identified.

Identified Asbestos

Loose fibres and fibre bundles have been detected in the Made Ground at two locations at the site, at concentrations of up to 0.055%, as such, the possibility of asbestos containing materials (ACM) existing away from and in between sampling locations cannot be ruled out. The risk from release of free fibres during the construction phase is therefore considered high, particularly in the vicinity WS1 and the former public house on site.

However, with the correct management i.e. removal of visible fragments (if present), dust suppression measures and reassurance air monitoring, the risk can be significantly reduced. The remediation contractor should employ or train site managers in the identification of ACM and deploy the control measures detailed within this Management Plan should any ACMs be identified anywhere on site.

A plan showing the location of the identified Asbestos contamination is presented in the Remediation Strategy as Figure 3 and also as Figure 1 overleaf.

It should be noted that the extent of the asbestos impacted soils has not been delineated, and as such, the whole site area is considered to be potentially contaminated with low level Asbestos. The guidance within this Management Plan should therefore be followed during **all** works on site.

Full results of the chemical testing and asbestos quantification are presented in Appendix 2 of the EEG Phase II report (Reference A2212/19/B.0, January 2019).

Figure 3 Location of Soil Contaminant Exceedances



Objectives

Mechanical excavation of soils containing Asbestos will cause disturbance and possible release of free fibres, therefore the works should be planned, controlled and reviewed in accordance with the AMP in order to minimise the potential risk to workers and members of the public.

This detailed Asbestos Management Plan will incorporate the following:

- Monitoring requirements for works;
- Emergency protocols and actions in the event of unexpected contamination or exceedance of imposed trigger limits;
- Programme of on-site training to ensure all ground workers are adequately trained in asbestos awareness and appropriate mitigation measures;
- Detailed methodology for the excavation of potentially asbestos impacted soils and redepositing in a safe controlled manner, including on-site dust suppressant.
- Schedule for on-site validation protocols to demonstrate the method statement has been successfully implemented.

In addition, the works will be monitored to provide supporting evidence to the working methodologies and to demonstrate that public and civil liabilities are not put at risk.

The Management Plan should be read in conjunction with the Remediation Strategy (Reference A2628/18/RMS).

2.0 ASBESTOS RISK ASSESSMENT

Site Setting

The site is located at the junction of Claremont Road (north) and Victory Street (west), within a predominantly built up residential area. Residential housing is present immediately to the north, east and south of the site, with a recreational park/public open space to the west. A site location plan is shown as Figure 2, below.

Figure 2 Site Location Plan



General Qualitative Risk Assessment

Asbestos is predominantly a hazard to human health through the inhalation of airborne fibrous crystals less than 10 microns in size (PM10). Fibres of this size may enter the lungs, causing disease and cancer (Mesothelioma). Where asbestos is bound within a solid matrix that cannot easily release particles of PM10 size, or is clumped together into large particles, or is fixed within soils by adhesion to other matter and water (and thus cannot easily be inhaled / ingested), then it presents a significantly lower hazard.

Classification of Works

In accordance with Asbestos in Soil and Made Ground good practice site guide CIRIA 765 2017 guidance, the works are considered to be non-notifiable non-licensed work under CAR 2012.

Site Specific Semi-Quantitative Risk Assessment

A semi-quantitative risk assessment has been carried out as a decision support tool to aid in the categorisation of work activities in accordance with the CAR 2012 regulations.

Table 1: Hazard Factors

Variable	Setting	Score
ACM Type	Dispersed fibres/fibre bundles visible/identified	3
Original form/clearly identifiable products?	Not clearly identifiable as original form insulating boards	1
Extent of degradation of ACMs at outset of work	Disaggregated (dominated by loose fibres)	4
Distribution of Visible Asbestos Across Affected Area	No visible contamination by ACMs	0
Asbestos Fibre Type	Chrysotile	3
Total		11
Hazard Ranking		Medium

Table 2: Exposure Factors

Variable	Setting	Score
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Moderate Quantities >0.05% to <0.001 % % wt/wt	3
Respirable fibre index for source material	Low	2
Best description of primary host material matrix	Fine silt and/or clay	1
Best description of primary host material	Material present just below the surface, likely to be disturbed during routine siteworks	3
Activity type and effect on deterioration of ACM/fibre type during work	Low intensity, slight deterioration expected	2
Occupational exposure period	> 2 hours in a 7 day period and Up to 10 hours in a day (e.g. full time occupational exposure)	4
Total		15
Hazard Ranking		Medium

Pathway and Receptor Sensitivity

Table 3: Groundworkers

Variable	Setting	Score
Receptor Category	Construction/ground investigation	N/A
Duration of Exposure	Up to 10 hours in a day (e.g. full time occupational exposure)	3
Receptor Age	Adult (>24 and <60)	1
Distance from Source	In area of disturbance	5
Calculated sub-total ((duration + age) x distance)		20
Receptor Ranking		Low
Combined hazard, exposure and receptor ranking		Medium

Table 4: Public/Adjacent Residents

Variable	Setting	Score
Receptor Category	Residential/Public	N/A
Duration of Exposure	<< 1 hour in a day (e.g. short term exposure event)	1
Receptor Age	Infant (under 5) – >Over 60	4
Distance from Source	>10m<50m	2
Calculated sub-total ((duration + age) x distance)		10
Receptor Ranking		Very Low
Combined hazard, exposure and receptor ranking		Low

Table 5: Risk Assessment Outputs*

Control Measures	Requirement
Probable Licensing Status	Non-Licensed Work
RPE	EN140 / disposable P3 filter half mask
Dust Suppression	Manual/localised dust suppression
Hygiene/Decontamination	Standard hygiene and welfare facilities with localised decontamination facilities upon leaving the asbestos impacted working zone.

*Guide only; suitability of control measures are to be dynamically assessed as the job progresses;

Overall Risk Assessment

The asbestos encountered at the site has been quantified as between < 0.001% and 0.055% (Chrysotile fibres). There is potential risk for release of Asbestos fibres into the air following disturbance of the material as part of the enabling works. Once airborne, the fibres could impact upon construction workers or site neighbours. The risk is concluded at this stage to be **MEDIUM**.

4.0 ASBESTOS CONTROL MEASURES

Where asbestos is present, the duty holder (in this case the Principal Contractor), has a statutory legal responsibility to have a written Asbestos Management Plan, this should be compiled to make personnel who are to work on the site aware of the presence of asbestos.

Prior to works commencing the following protocols will be adopted:

- Induction of all operatives that will be involved with the proposed works to include a brief outline of works within the site area;
- Tool box talks will be undertaken to highlight risk from ACMs and working methods will be designed to mitigate risks. Toolbox talks will be undertaken regularly to re-communicate the procedures to all operatives;
- All operatives involved with earth movement will have asbestos awareness training;
- Assessment and recording of prevailing weather conditions including wind direction;
- In addition, the site induction should specifically address the presence of asbestos fibres in the ground, the PPE and RPE requirements as well as the control measures that are in place on site.

In addition to normal good practice precautions, the presence of asbestos within the ground will require a safe system of work to be set up on site to deal with the asbestos risk. This will include but is not necessarily be limited to:

- The provision of appropriate PPE and RPE;
- Avoid unnecessary/prolonged exposure of asbestos impacted soils;
- Damping down of soils with water spray to prevent dust generation during ground breaking exercises;
- The sheeting of exposed soils by a geotextile and working clean cover;
- Careful segregation of stockpiles on site;
- Regular damping down of stockpiles;
- Sheeting of stockpiles;
- Defining transport routes;
- Cleaning down of machinery in designated areas;
- Decontamination unit for ground workers;
- The use of qualified personnel where required.

Stockpiling

Any excess impacted soil generated will be transported to a dedicated stockpile zone. The dedicated impacted stockpile zone will be located away from any other stockpiles (to prevent cross contamination) and the boundary lines, placed on an impermeable membrane and covered.

Dust Control

Dampening down will be undertaken using dedicated water bowsers. A good water supply would be required (ideally a stand pipe within or near the site boundary). Water bowsers should be refilled daily to ensure there

is dampening down available for the next day. Should the stand pipe be unavailable then additional water storage tanks will be delivered and filled from an outside water source.

Dampening down should be supervised to prevent any uncontrolled water run-off, which may subsequently dry out and become dusty at a location away from the site itself.

Clean Cover

Clean cover soils will be placed over the asbestos impacted soils in line with the specification in the Remediation Strategy (Reference A2212/19RMS) as soon as practically possible.

5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

As the site is considered to be **MEDIUM** risk, there is a requirement for asbestos specific PPE and Respiratory Protective Equipment (RPE). During the high activity levels EEG Ltd will supervise works as they progress.

The following PPE methodology is required:

- Disposable overalls. Type 5 (BS EN ISO 13982-1) are suitable. Cotton overalls hold dust and need specialist laundering;
- Use oversized overalls to prevent ripping at the seams;
- If the cuffs are loose, seal them with tape;
- Avoid wearing a long-sleeved shirt which may be difficult to cover properly;
- Wear the overall legs over footwear (avoid laced footwear).
- Wear overall hood over the RPE straps;
- If you wear protective gloves, use single-use disposable gloves. If you must use latex gloves, use only 'low protein powder-free' gloves;
- Disposable respirator to standards EN149 (type FFP3) or EN1827 (type FMP3);
- Half mask respirator (to standard EN140) with P3 filter; or
- Semi-disposable respirator (to EN405) with P3 filter.

A de-contamination area should be provided prior to the works commencing for the site operatives that will be present within the working area. This requires a dedicated entry and exit point to the asbestos working zone, boot washing facility, red bags to place used suits into prior to leaving the de-contamination area. No personnel must enter the asbestos working zone without PPE and no personnel wearing PPE must leave the asbestos zone until all PPE is disposed of. Further details will be provided during the toolbox talks.

6.0 UNEXPECTED ASBESTOS CONTAMINATION

The following procedure will be adopted should an unknown quantity or type of Asbestos be discovered on site, which is not detailed in the SI report or the asbestos location plan.

- All work will cease in the location;
- Operatives to report the find to the site manager;
- The affected area will be wetted down, covered and vacated;
- A competent and qualified person should undertake an appropriate risk assessment for the control and handling of the material and the location of the asbestos will be recorded.

7.0 RECORD KEEPING AND VERIFICATION

Record Keeping

During the earthworks and subsequent remediation phase, the following records should be kept:

- Summary of site activities, including material movements;
- Summary of any actions undertaken or deviations from proposed methodology;
- Fibre suppressant methods employed by the contractor, if any;
- Weather and dust observations;
- Observations on ground conditions, including any unexpected asbestos contamination;
- A summary of any sampling undertaken.

Any updates to the risk assessments undertaken and changes to the control procedures should also be recorded and approved by a qualified person.

APPENDIX A

REGULATORY FRAMEWORK

REGULATORY FRAMEWORK

The regulatory framework surrounding asbestos in soil in the United Kingdom is “vague” and guidance is often outdated and of limited use for risk assessment purposes.

The Control of Asbestos Regulations 2012 applies to all work with asbestos including working with asbestos contaminated soils; however, such work is not referred to in either Asbestos: The Contractor’s Guide (for licensed work) or Asbestos Essentials (for non-licensed work).

Most asbestos guidance published by the HSE relates to occupational exposure and Health & Safety legislation and is therefore not directly applicable to asbestos in soils.

The most recent UK contaminated land guidance dealing specifically with asbestos is the ICRCL Guidance Note 64/85 “Asbestos on Contaminated Sites 1990”. Unfortunately, this guidance is of limited use, as it is particularly poor on risk assessment and much of the legislation referred to is outdated.

As stated, ICRCL Guidance Note 64/85 gives very little detail in assessing risk but does state that factors to be considered should include: amount and form of asbestos, location of site (relative to housing, schools etc), present use of the land, ease of public access and the proposed future land use. The document further states: *The Environmental Health Department of the relevant local authority should be consulted on the need for, and form of, any immediate action required in order to minimise risks to public health.*

The guidance suggests that if discrete pieces of Asbestos Containing Materials (ACMs) are present, the area should be treated as “contaminated”. If no discrete ACMs are present; test the soil for asbestos fibres with a limit of detection (LOD) of <0.001% wt.

The value of 0.001% wt as a “clearance level” is derived from research by Addison *et al*, at the Institute of Occupational Medicine in 1988. This was further developed in the HSE publication “HSE Contract Research Report No 83/96 Development and Validation of an Analytical Method to Determine the Amount of Asbestos in Soils and Loose Aggregates”.

It should be noted that these publications are not risk based and that asbestos cannot be assessed using CLEA or any other standard exposure assessment tool. These tools assume the concentration (%wt) of contaminant in soil is related to risk, this is not true for asbestos. Risk is associated with the likelihood of asbestos fibres becoming airborne from the soil and this depends on a great number of factors including the nature of the asbestos (bound or unbound), nature of the soil (cohesive or granular), moisture content of soil, weather conditions, extent of disturbance etc.

New guidance on asbestos in contaminated land is currently being developed in the United Kingdom, based on the risk assessment approaches developed in the Netherlands and the USA. The Environment Agency and Health and Safety Laboratory are collaborating to: *“develop cost-effective methods for the analysis of asbestos in soils which support the development of relevant measurable assessment criteria which can be used for site-specific risk assessment”*.