

Carley Daines and Partners Limited

Consulting Civil and Structural Engineers

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DOWNLEY DRIVE

MANCHESTER

M4 7JU



PHASE 3 REMEDIATION STATEMENT *UNDERTAKEN FOR* **GREAT PLACES HOUSING ASSOCIATION**

Ref:19-B-12490/Downley Drive

Revision '0'

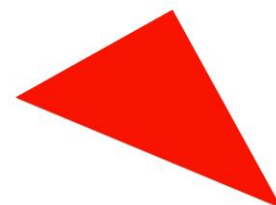
9th March 2021

Principal: **D.J. Middleton BEng(Hons) CEng MStructE**

Company Number: **11006567**

Address **11 Bridgewater Road, Walkden, Worsley, Manchester M28 3JE**

VAT Number: **285 0439 91**



Report Title:	Downley Drive, Manchester, M4 7JU
Report Reference:	19-B-12490
Client:	Great Places Housing Association
Issue Date:	9th March 2021
Authorised By:	D.J. Middleton

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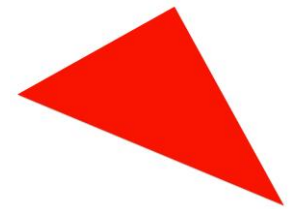
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1.0 INTRODUCTION

This report has been prepared at the Client's request following the Phase 1 & 2 Site Investigations.

The site is located at the west end of Downley Drive in the New Islington area of Manchester, approximately 1km east of the city centre at NGR 385345, 398731 and at postcode M4 7JU.

2.0 PROPOSED DEVELOPMENT

Plans made available show the proposed development of the land to be residential units in a mix of houses & apartments with associated access road, drainage, utility & parking infrastructure.

3.0 PHASE 1 / 2 SITE INVESTIGATIONS

Separate Phase 1 & Phase 2 investigations have been undertaken by Messrs Carley Daines and Partners Limited. The Phase 2 investigation is dated 25th January 2021.

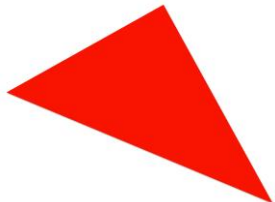
This indicates that the site has maximum dimensions of approximately 150m by 50m. The area is approximately 8,600m² (0.86 ha).

The site exists at an elevation of approximately 49m AOD.

The site is currently unoccupied and is split by a path from Downley Drive to the Rochdale Canal.

The site has been developed in the past with significant industrial and commercial usage and with housing in the southern area of the site.

The surrounding area is predominantly a mix of residential development with commercial and industrial land use to the west of the canal.



The Phase 2 Ground Investigation was based on 8 boreholes to a maximum depth of 6.0m. and 4 trial pits to a depth of 1m, yielding 12 soil samples for laboratory testing. The report indicated that there are elevated concentrations of contaminants present on the site, specifically Lead, Benzo(a)Anthracene, Benzo(a)Pyrene and traces of Asbestos. These are considered a potential risk to human health. The report recommended placement of a suitable clean capping layer, 600mm in thickness to gardens & soft landscaped areas.

4.0 REVIEW OF CONTAMINATION RESULTS

Testing was carried out on soil samples selected from trial pits and window sample holes. Tests were undertaken for the following contaminants:

- Heavy metals/metals
- PAH (USEPA16)
- Asbestos
- TPH
-

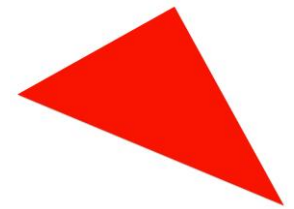
Contamination testing indicated elevated concentrations of contaminants present on the site, specifically Lead, Benzo(a)Anthracene, Benzo(a)Pyrene and Asbestos.

The report recommended that gas monitoring be undertaken.

5.0 REMEDIATION STRATEGY

5.1 IN-GROUND CONTAMINATION

Following a review of the Phase 2 Site Investigation, and comparison with published sources, it is our opinion that the identified elevated levels of soil contamination are sufficient to pose a threat to future health but should not be considered to be as very high or dangerous levels.



Generally, it is widely accepted that there is a significant factor of safety built into maximum soil contamination levels, and the recorded levels are typically elevated above safe levels, rather than being many orders of magnitude greater.

In this respect, we would re-state the findings of the Phase 2 Investigation that contaminated material may be safely left on site, providing the end user is protected by a suitable clean capping layer.

Therefore, we would recommend that a proposed capping layer to soft landscaped areas should be constructed. Typically, this should be 600mm thick and can be regarded as a default remediation strategy, capable of remediating levels of contamination much higher than those identified.

We would recommend that the capping layer should consist of:

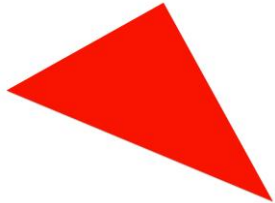
- An upper layer of 150mm of clean inert topsoil
- A lower layer of 450mm of clean inert subsoil

However, it is important that a “watching brief” is maintained during the course of the groundworks. This is to identify and investigate any unexpected/unforeseen contamination that might arise or be identified.

The watching brief should be undertaken by this firm or other suitably qualified equivalent professional firm. In the event that contamination is identified or suspected, notification should be by the contractor’s on-site personnel as soon as possible.

6.0 GROUND GASES

Ground gas monitoring has been undertaken (see Supplementary Report on Ground Gas Monitoring dated 9th March 2021). No ground gas protection measures are required.



7.0 VALIDATION

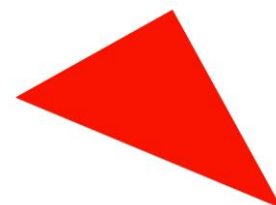
Validation will be required on completion. To ensure that all elements of this Remediation Statement are properly implemented, a final Validation Report will be prepared by Carley Daines & Partners Limited or other appropriately qualified consultant, confirming that the remedial works have been completed.

The validation report will confirm the following:

- Confirmation that the proposed clean cover materials are suitable for the proposed end use. This will be undertaken by recovery of representative soil samples after importation for testing.
- A testing regime on imported material will be carried out, including testing one sample per 50m³ of imposed material (from a brownfield source) and one sample per 200m³ of imported material (from a greenfield source). A minimum of 3 such samples will be carried out for materials from differing types and from different sources.
- Depths of imported material will be verified by photographs on a plot-by-plot basis.
- Any material removed from site must have appropriate waste transfer documentation to confirm appropriate removal and disposal.

A summary of actions is listed in the table hereunder:

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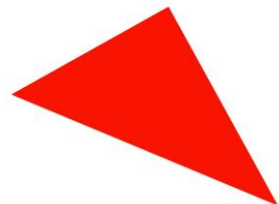


Summary of Action	
Action	Person Responsible
Site Management procedures to protect site neighbours, environment and amenity during works, including a) Health & Safety plans and procedures b) Dust, noise & odour suppression/controls, including monitoring protocols c) Control of surface water runoff d) Site Waste Management Plan (SWMP)	Main Contractor
Assessment of ground conditions if unanticipated or obviously very high levels of contamination are uncovered, plus appropriate additional testing of such material.	Main Contractor CD&P Ltd NHBC Building Control
Method Statement indicating the procedure for removal of potentially contaminated material, and placement of clean cover throughout all areas of soft landscaping within the development	Main Contractor
Provide suitable protection to site utilities in accordance with the requirements of the service provider	Main Contractor/Engineering consultant
Witness/verify the placement of correct thickness of clean cover materials in accordance with the Sub Soil Surveys Ltd methodology	CD&P Ltd.
Laboratory testing to confirm the suitability of the clean cover materials post placement	CD&P Ltd
Completion of post-site works Final Validation Report	CD&P Ltd

SIGNED

DAVID MIDDLETON
CARLEY DAINES AND PARTNERS LIMITED

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APPENDIX 1

SITE LAYOUT



great places
HOUSING GROUP

Buttress

Dr. D. Wang, M.D.
 601 East 12th Avenue
 Denver, CO 80202

Project Title	Contractor	Start Date, Project
Clinton	W&A	1994
Clinton	W&A	1995
Clinton	W&A	1996
Clinton	W&A	1997
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Clinton	W&A	1999
Clinton	W&A	2000
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