







New Cross, Manchester

Phase 4 Completion Report

Curtins Ref: 067896-CUR-00-XX-RP-GE-005

Revision: V01

Issue Date: 21 August 2020

Client Name: Balfour Beatty

Client Address: 5000 Lakeside, Cheadle Royal Business Park, Cheadle, SK8 3AX.

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Executive Summary

In June 2020, Curtins were instructed by Balfour Beatty to produce a Completion Report, presenting the remedial works undertaken associated with the New Cross development, off Oldham Road in Manchester.

It is envisaged that this document will be used in support of discharging Local Planning Authority (LPA) conditions relating to contamination and remediation verification.

Site assessment works previously determined that remedial measures were required to be incorporated into the development in order to break the single remaining Potential Pollutant Linkage (PPL). Remedial Measures were recommended as follows:

- Install engineered capping system to serve as physical barrier between the Made Ground and end user of the site.

To address this elevated risk a specification for engineered capping was detailed in Curtins Remediation Statement, together with a verification plan, measures for dealing with unexpected contamination appropriately, a specification for imported soils and further considerations for excavations on site.

The above works have now been completed with details and records of the works undertaken at the site collated herein provided by Balfour Beatty and obtained by Curtins through site inspection visits.

Considering the available evidence Curtins can confirm the following:

- Imported topsoil from 'Hightown Compost Site' has been proven to be 'clean' and 'suitable for use' in the areas of soft landscaping through environmental laboratory analysis;
- The engineered capping layer has been installed to agreed specification in all soft landscaping areas, confirmed through independent inspection and study of available records; and
- No unexpected contamination or contaminative incidents were reported during construction.

On this basis, the installation remedial measures has been undertaken satisfactorily and in accordance with the Remediation Statement. The primary Potential Pollutant Linkage (PPL), identified in *Section 1.3*, no longer remains as the pathway between the contaminants within the Made Ground and the site end users and property has been broken by the installation of engineered capping in soft landscaping and planting areas.

Table of Contents

1.0 Introduction 1
1.1 Requirements of the Completion Report 1
1.2 References 1
1.3 Project Background 2
2.0 Remedial Works Undertaken 3
2.1 Validation of Engineered Capping 3
2.1.1 Imported Soil Suitability 3
2.1.2 Depth Validation 4
2.2 Unexpected Contamination and Contaminative Incidents 5
3.0 Conclusion 7

Appendices

Appendix A1 - Drawings
Appendix A2 - Photographic Records
Appendix A3 - Supporting Information
Appendix A4 - Imported Soil Screening

1.0 Introduction

In June 2020, Curtins were instructed by Balfour Beatty to produce a Verification and Completion Report presenting the remedial works undertaken associated with the New Cross development, off Oldham Road in Manchester.

The development proposals comprise two eight-ten and six-eight storey residential buildings, with commercial units at ground floor level facing Oldham Road and a one storey basement occupying the majority of the site area. The proposed landscaping layout is presented in *Appendix A1*.

Details and records of remedial works undertaken at the site have been collated herein from information provided by Balfour Beatty and obtained by Curtins through site visits.

1.1 Requirements of the Completion Report

The Completion Report is to account for the following;

- A descriptive and factual record of the remedial works undertaken by the contractor and their appointed sub-contractors;
- Verification of all remedial works by Curtins;
- The suitability of imported Topsoil for use; and
- Records of any other significant visual or olfactory evidence of contamination encountered during site clearance and excavations.

It is envisaged that this document will be used in support of discharging Local Planning Authority (LPA) conditions relating to contamination and remediation verification for Planning Application Ref. 112015/FO/2016/N1.

1.2 References

This completion report has been prepared with reference to the following reports;

- Curtins (2016) Blocks A & B New Cross Manchester – Phase 2 Intrusive Investigation ref. B061488/JB/8107, dated 21 October 2016 (Ref. 1)
- Curtins (2017) Blocks A & B New Cross Manchester – Remediation Strategy Statement ref. B061488/JJ/8289, dated 18 January 2017 (Ref. 2)
- Curtins (2018) Blocks A & B New Cross Manchester – Verification Report ref. 067896-CUR-00-XX-RP-GE-002-V01, dated 29 June 2018 (Ref. 3)
- Curtins (2018) New Cross Manchester – Remedial Capping Specification ref. 067896-CUR-00-XX-RP-GE-004-V01, dated 23 October 2018 (Ref. 4)

For further details the above reports should be consulted. It is assumed that the client is in receipt of these reports and that they also been submitted to and accepted by Manchester City Council to discharge relevant planning conditions.

1.3 Project Background

In February 2018, Curtins validated the removal of underground storage tanks (USTs), interceptors, hydraulic vehicle jack and unexpected contamination as part of enabling works prior to development. These works have been reported within the 2018 Verification Report (Ref. 3)

Following their removal and verification, the Remedial Capping Specification (Ref. 4) identified the remaining pollutant linkages that were considered to present a potential risk to human health and would require additional remedial measures to ensure safe redevelopment of the site for its proposed end use. The linkages are summarised in *Table 1.3*.

Table 1.3 – Potential Pollutant Linkages (PPL)

PPL	Sources	Receptor	Potential Pathway	Remediation Recommended
1	Made Ground soils containing potential elevated concentrations of non-volatile contaminants within areas of proposed landscaping	End users	Inhalation, ingestion and dermal contact with contaminants in soil and soil-derived dust from on-site Made Ground.	Public Open Space Landscape Areas overlying Made Ground - Provide a clean and inert growing medium of 450mm of topsoil/subsoil in soft communal landscaped areas.

The primary potential pollutant linkage (PPL) identified at the site relates to the dermal contact, ingestion and inhalation of contaminants in made ground soil and soil derived dust (PPL 1, *Table 1.3*).

To address this elevated risk the proposed remediation works were detailed in the Curtins Remedial Capping Specification (Ref. 4), together with a verification plan, measures for dealing with unexpected contamination appropriately, a specification for imported soils and further considerations for excavations on site.

The recommended depth of capping required in areas of Public Open Spaces and landscaped areas was outlined in the remediation statement (Ref. 4).

2.0 Remedial Works Undertaken

In this document the term 'remediation' is used to define specific works required to address potential issues arising from Made Ground soils on site, with due account taken of the known history of the site and the proposed end-user.

In order to achieve the required protection required to address the risk from Made Ground soils the following capping was installed:

Soft Landscaping Areas	Remedial Measures
Shrub Planting, Soft Landscaping	450mm Capping layer comprising minimum 150mm topsoil with resultant depth subsoil.

Remedial works have now been undertaken at the site as part of the building construction. The development was constructed by Balfour Beatty, the Principal Contractor on the project. SLR Consulting were the landscape architects on the project.

SLR Courtyard General Arrangement Drawing ref. *NCR-SLR-Z0-Z0-DR-L-101-P12* and *SLR Ground Floor Arrangement Sheet 2 of 2 ref. NCR-SLR-Z0-Z0-DR-L-102-P07 are* enclosed in *Appendix A1*.

2.1 Validation of Engineered Capping

Verification of all engineered capping was undertaken to ensure remediation has been undertaken as specified and demonstrate the effectiveness of the remediation. Verification of installed capping was undertaken in general accordance with the verification plan set out in the Curtins Remedial Capping Specification (Ref. 4).

Curtins carried out one site visit to inspect the installation and depth of the engineered capping in various landscaped areas and collect topsoil samples to prove suitability for use on 06 July 2020. Balfour Beatty provided photographic records of the areas not validated during this visit, on 15 August 2020 and 17 August 2020. The photographic record is included within *Appendix A2*.

Further details and records of materials used and capping installation were also provided by Balfour Beatty for review and inclusion herein.

2.1.1 Imported Soil Suitability

Topsoil was imported to site for use in soft landscaped areas. Circa 198m^3 of topsoil was imported from 'Hightown Compost Site'; understood to be a recycled source. Recycled or reclaimed source materials include: organic substances which are not used as solvents; or other inorganic materials, in accordance with Environment Agency Permit ref. EPR/MP3135DF, attached within *Appendix A3*.









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NRM Laboratories source laboratory testing results, enclosed within *Appendix A4*, were made available for review, indicating the soil can be classified as Multipurpose Grade topsoil in accordance with BS3822:2015. The soil Textural Class is identified as Organic Sandy Loam.

Once imported, Curtins attended site to undertake a visual inspection of this material and obtain samples for laboratory analysis to identify the chemical composition and prove the material is 'clean' and 'suitable for use'.

Considering the volume of imported materials, broadly in line with the testing frequency outlined in Curtins Remedial Capping Specification (one sample every 100m^3 used or a minimum of 3 no. samples, whichever is greater). Three samples were obtained from areas of landscaping within the central courtyard area. The samples were obtained from HP1, HP3 and HP4, illustrated in Curtins Drawing ref. *067896-CUR-00-XX-DR-GE-0002-V01*, Capping Validation Plan, enclosed within *Appendix A1*.

The samples were tested for the environmental chemistry analysis suite outlined in Curtins Remediation Capping Specification at Envirolab, a UKAS and MCERTS accredited laboratory.

Testing results (report ref. 20/05530-1) were compared with criteria for a '*Residential with Plant Uptake end use 6% SOM*' (both enclosed in *Appendix A4*). No exceedances of assessment criteria were recorded and furthermore no asbestos was identified.

On this basis the topsoil sourced from 'Hightown Compost Site' for the New Cross development may be considered 'clean' and 'suitable for use' in areas of soft landscaping.

No subsoil was imported to the site.

2.1.2 Depth Validation

Validation of sufficient thickness of Topsoil was undertaken by a Curtins Engineer on 06 July 2020. 5 no. hand excavated trial holes were advanced across areas of completed soft landscaping adjacent to Block B, the southern corner of landscaping adjacent to Block A and a small area centrally within the courtyard. The locations of each hand pit are recorded in Curtins Capping Validation Plan (ref. *067896-CUR-00-XX-DR-GE-0002-V01* and *067896-CUR-00-XX-DR-GE-0003-V01*) enclosed within *Appendix A1*.

A summary of the recorded capping thicknesses is presented in *Table 2.1.2a.*

Table 2.1.2a – *Summary of Curtins Hand Excavated Trial Hole Topsoil Depths*

Trial Hole I.D	Capping Thickness Recorded (mm)	Soil Sample Obtained For Testing	Pass/Fail
HP1	570	✓	Pass
HP2	670	X	Pass

Trial Hole I.D	Capping Thickness Recorded (mm)	Soil Sample Obtained For Testing	Pass/Fail
HP3	650	✓	Pass
HP4	600	✓	Pass
HP5	450	X	Pass

Depth validation photographic records were also provided by Balfour Beatty from the remaining areas of soft landscaping, which were not completed on 06 July 2020. All photos show the topsoil to meet the required depths. The recorded capping thickness is presented in *Table 2.1.2b.*

Table 2.1.2b – *Summary of Recorded Capping Thicknesses*

Trial Hole I.D	Date of Record	Capping Thickness Recorded (mm)	Pass/Fail
BB1	13 August 2020	450	Pass
BB2	13 August 2020	450	Pass
BB3	13 August 2020	460	Pass
BB4	15 August 2020	510	Pass
BB5	17 August 2020	450	Pass
BB6	17 August 2020	490	Pass
BB7	20 August 2020	510	Pass
BB8	20 August 2020	460	Pass

A photographic record of all hand excavated trial pits is attached within *Appendix A2*.

All validation trial holes recorded the required thickness of topsoil, determined by the Remedial Capping Specification.

2.2 Unexpected Contamination and Contaminative Incidents

Chartrange, the groundworks contractor for the development, confirmed that following the removal of the underground storage tanks and associated contamination (works previously verified by Curtins, Ref. 3), no contaminated ground was encountered during the works. Correspondence from Chartrange is attached in *Appendix A3* confirming this.