



MIRA Technology Park – LIF 2 Infrastructure, Land North of A5

Validation Report

June 2024

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Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group’s IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001: 2018)

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Comments

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We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

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1. Introduction

1.1 Objectives

Waterman Infrastructure & Environment Limited (“Waterman”) was instructed by Waterman Structures Limited on behalf of Swanvale Developments Limited to prepare a Validation Report for the MIRA Technology Park LIF 2 Infrastructure Site, Land North of the A5, Nuneaton (hereafter termed “the Site”). A Site boundary plan is included in Appendix A.

This Validation Report describes enabling, groundworks and construction works relevant to the Remediation and Discovery Strategy prepared for MIRA Technology Park – LIF 2 Infrastructure, Land North of A5 (report reference: WIE13833-117-RS-4.1.1-RJM).

The Validation Report has been prepared to facilitate the discharge of Condition 5 and Condition 6 of planning permission 22/00412/FUL in relation to works completed at MIRA Technology Park – LIF 2 Infrastructure, Land North of A5. The full conditions are as follows:

5. *No development approved by this permission shall be commenced until a scheme for the investigation of any potential land contamination on the site has been submitted to and agreed in writing by the Local Planning Authority which shall include details of how any contamination shall be dealt with. The approved scheme shall be implemented in accordance with the agreed details and any remediation works so approved shall be carried out prior to the site first being occupied.*
6. *If during development, contamination not previously identified is found to be present at the site, no further development shall take place until an addendum to the scheme for the investigation of all potential land contamination is submitted to and approved in writing by the Local Planning Authority which shall include details of how the unsuspected contamination shall be dealt with. Any remediation works so approved shall be carried out prior to the site first being occupied.*

This validation report details all material movements, records for contamination encountered and final Site conditions for the LIF-2 infrastructure works.

1.2 Site Description

The Site occupies approximately 15.6 hectares and currently forms part of the MIRA Technology Park. The Site is directly north and west of the existing Mira Drive roadway, south-west of the existing MIRA proving ring and west of the MIRA testing circuit.

A walkover of the wider MIRA facility including the development area was undertaken on 19 March 2014. At the time of the walkover the majority of the Site boundary was occupied by vacant undeveloped land. A farmhouse and series of disused farm buildings were present in the north-east. Waterman completed further ad-hoc inspections of the LIF-2 area during construction works.

1.3 Development Works

The LIF-2 infrastructure works comprised demolition of all existing structures, ground levelling, and construction of infrastructure to support future new commercial buildings with car parking, soft landscaping, and attenuation ponds. Fitzgerald undertook all works on behalf of Swanvale Developments Limited, which included:

- Stripping and demolition of all existing structures, and pulling up of all hardstanding;
- On-site processing of demolition arisings under WRAP quality protocol for re-use as 6F crushed concrete;
- Removal of redundant below-ground features and obstructions including an effluent tank related to former farm activities;
- Localised relevening of the Site through cut-and-fill using imported and Site-won soils;

- Construction of a new footpath and roadways to support the new interchange area in the south-east of the Site;
- Installation of below-ground drainage pipes across Site;
- Excavation of two new attenuation ponds;
- Installation of new landscaping using Site-won soils;
- Export of material not suitable for re-use from Site; and
- Surplus soils stockpiled for re-use in other developments across the wider MIRA site.

The principal contractor Fitzgerald commenced Site works in February 2023, with infrastructure works completed in May 2024. As built plans for the Site have been included in Appendix A. Photographs of the Site taken during and post completion of the works are included in Appendix B.

1.4 Relevant Documentation

This Validation Report should be read in conjunction with the documents set out in Table 1.

Table 1: Previous Reports Relevant to the Site.

Date	Title	Author	Reference
April 2022	Ground Conditions and Contamination, Flood Risk Assessment and Outline Drainage Strategy Desk Study - MIRA Technology Park – LIF 2 Infrastructure, Land North of A5	Waterman	EED13833-117-R-2.4.2-FRA
May 2022	Ground Investigation Factual Report	Soils Ltd	20188/FGIR Rev1.0
September 2022	Remediation and Discovery Strategy – MIRA Technology Park – LIF 2 Infrastructure, Land North of A5	Waterman	WIE13833-117-RS-4.1.1-RJM

2. Conceptual Site Model

The Remediation and Discovery Strategy was prepared to ensure the potentially active contaminant linkages identified in the Ground Conditions and Contamination, Flood Risk Assessment and Outline Drainage Strategy report have been addressed through completion of the Development. The potentially active contaminant linkages identified included the following:

- **Future Site users:** Direct contact, ingestion, and inhalation of potentially contaminated soils in soft landscaped areas;
- **Construction workers:** Direct contact, ingestion and inhalation of potential contaminants within shallow soils during earthworks;
- **Off Site residents/ users:** Migration of contamination off-Site through Secondary A Aquifer in the Boulder Clay Formation;
- **Controlled water receptors:** Migration of potential contaminants within shallow soils to shallow groundwater and surface water features; and
- **Building foundations and buried infrastructure:** Direct contact with aggressive chemical conditions in shallow soils.

2.1 Required Remediation Measures

Measures included in the Remediation and Discovery Strategy to address potential contaminant linkages were as follows:

Future Site Users and Landscaping

- The contractor will be responsible for determining the most appropriate framework through which soils are re-used. This is likely to be through the CL:AIRE 'Definition of Waste' Code of Practice (DoWCoP), or alternatively through a waste exemption permit sought from the Environment Agency. Should approval be sought via DoWCoP, the Contractor will prepare a Materials Management Plan (MMP).
- Should additional topsoil/subsoil be imported, a minimum of three samples of soil per source will be submitted for analysis to confirm its suitability. Samples will be taken in-situ following soil placement and submitted for the chemical analysis listed in 'Appendix B2' of the Remediation and Discovery Strategy and will comply with the limits in the table. If the volume of soil from any source exceeds 1,500m³, samples at a rate of one sample per 500m³ over and above 1,500m³ should be submitted to confirm suitability.
- An environmental engineer will regularly attend Site during ground works to examine arisings and confirm any visual evidence of contamination identified. The engineer will keep a photographic record of the works as excavation progresses.
- Stockpiles of contaminated material will be positioned on impervious surfaces to prevent any potential leachate to ground.

Construction Workers

- The health and safety of all construction workers and site visitors will be managed appropriately during the development works by providing appropriate welfare facilities, decontamination facilities, personal protective equipment (PPE) and respiratory protective equipment (RPE) commensurate with the contaminants present on the Site and the activities being undertaken.
- The Contractor will complete a method statement for all demolition and construction activities, and all works will be progressed in line with this method statement.

Off-site Residents/Users

- Appropriate mitigation measures and segregation of the works (including hoardings, damping

down, road sweeping and covering of stockpiles) will be undertaken to ensure the public are protected throughout the duration of the works.

Buried Foundations and Infrastructure

- Buried structures will be designed to withstand ground conditions in line with BRE Special Digest 1
- All new underground services will be situated in clean service corridors and any redundant services encountered during the ground works shall be appropriately decommissioned and capped at the Site boundary.
- The Contractor will ensure that drinking water supply pipes are resistant to the ground conditions present on-site and meet the requirements of Thames Water.

Controlled Water Receptors

- Chemical analysis of groundwater will be undertaken if required.
- Any fuel storage on-Site will be adequately bunded, with drip trays and spill kits provided and Site workers will be familiar with their use.
- Any leaks or spills will be reported to Site management, regardless of their volume.
- Access to fuel storage will be locked and restricted. Fuel dispenser pumps with “hold open latches” will not be permitted on Site.

2.2 Validation of Remediation Measures

This Validation Report has been prepared to detail all contaminated land works undertaken as part of the infrastructure works. The Validation Report includes the following information:

- For materials imported, re-used or exported from the Site;
 - Material source location, type and volumes;
 - Details of any processes undertaken on the material, such as remediation processes or generation of secondary aggregates;
 - Records to demonstrate the material has been procured or produced in accordance with appropriate protocols;
 - Details for any locations in which re-used or imported materials have been emplaced, including final thicknesses and total area covered; and
 - Locations where material has been exported, including volumes sent and relevant documentation. Exported material data should be separated based on the waste classification of the materials;
 - Summary of consignment notes and chain of custody documents relating to the disposal of soils, groundwater and asbestos containing materials from the Site;
- Details of any unanticipated contamination encountered during the works in accordance with the discovery strategy;
- As-built drawings showing final levels, excavated/infilled areas, and other relevant details; and
- Relevant approvals from the local planning authority, Environment Agency and the local water authority for the works carried out.

3. Works Completed

3.1 Material Movement

Material movements were necessary across the Site both to facilitate demolition and below-ground obstruction removal, to allow installation of new drainage, and to support re-levelling of the Site.

A summary of material movements including source location, type and volumes are detailed in Table 2.

Table 2: Summary of Material Movements

Material Type, area covered and thickness	Quantity (tonnes)	Supplier	Source
Imported Materials			
Fill sand	360	FGD Limited	Brown's Hill Quarry
20-5mm pipe bedding	2,590	Aggregate Industries	Newbold Quarry
2-6mm priora sub-base	80	Hanson UK	Bardon Hill Quarry
Type 1 sub-base			
Footway – 2,162m ² @ 175mm	832	Breedon Aggregates	Cloud Hill Quarry
Carriageway – 3,454m ² @ 150mm	1,139	Breedon Aggregates	Cloud Hill Quarry
Miscellaneous	140	Breedon Aggregates	Cloud Hill Quarry
Type 3 sub-base	490	Aggregate Industries	Bardon Hill Quarry
Site Won Materials			
6F5 from demolition and obstruction removal			
Carriageway capping layer 3,454m ² @ 350mm	2,659	N/A	Site
Carriageway capping layer 630m ² @ 600mm	831	N/A	Site
Topsoil/Subsoil 3,615m² @ 150mm	1,050	N/A	Site

3.2 On-Site Material Processing and Stockpiling

Concrete

Following demolition and Site clearance, all Site-won concrete and demolition material was crushed to 6F5 specification and stockpiled on-Site under the WRAP protocol by Fitzgerald. Processed concrete was stored in the centre of the Site ahead of re-use. 3,490 tonnes of crushed concrete was placed beneath the new roadways, with remaining surplus of around 3,200 tonnes retained in the stockpile for later re-use by subsequent contractors.

Specification sheets for the crushed concrete are included in Appendix C.

Topsoil and Subsoil

Topsoil and subsoil excavated for construction of the attenuation ponds was stockpiled in the north-west of the Site. This stockpile has been retained for re-use by subsequent contractors during individual plot development.

A plan of stockpile locations is set out in Appendix C

3.3 Imported Materials

Aggregates (fill sand, pipe bedding, sub-base) used in construction were sourced from virgin quarried material. Details for the source quarries are set out in Table 3.