



REMEDIATION STATEMENT – WHITEFIELD FIRE STATION

Revision	Date	Comment

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1.0 Introduction

1.1 Background

BGH LLP have been appointed as structural/civil engineers by Greater Manchester Combined Authority to develop a new build fire station in Whitefield, Bury. As part of our duties we have provided advise and considerations in relation to the presence of contaminated land on or adjacent the site.

The site is approximately 3500m² and centred on grid reference E380477, N406480. The proposed development is the demolition of an existing fire station and the construction of a new fire station.

1.2 Extant Reports

The following Reports have been prepared by Mssrs IGE Consulting Ltd to assess the nature and extent of potential contamination and risks associated with its disturbance by the works.

- Phase 1 Geo-Environmental Investigation – Desk based risk assessment
- Phase 2 Geo-Environmental Investigation – Site based intrusive investigation
- PFAS Statement

1.3 Summary of Extant Reports

Phase 1

- Low to moderate risk to human health
- Low to moderate ground gas risk
- Phased 2 Intrusive geotechnical investigation recommended to enable design of substructure elements for the project
- Any findings of the Phase 2 report to be acted upon appropriately
- GPRS and arboricultural surveys recommended



- Further works to identify the risk associated with PFAS at the site required

Phase 2

- No visual or olfactory evidence of contamination was found
- Following intrusive investigation and testing the site is considered to pose a very low risk to human health and no remedial measures are deemed necessary
- Following ground gas monitoring the risk is deemed to be very low and rated CS1 and no protection measures are required
- Risk to controlled waters is deemed very low
- Earthworks, demolitions arising and stockpile management strategy to be implemented
- Soakaway not considered feasible for surface water drainage
- If unidentified visual or olfactory evidence of contaminations is found during the works the EHO & EA should be informed to determine appropriate mitigation

2.0 Further Assessment of Potential Pollution

Whilst the Phase 1 & 2 Environmental Ground Investigations carried out indicate no further assessment of pollutant linkages is required, pending the on-site construction works, the following in relation to the management of construction works and contaminated ground are to be considered as part of the construction phase: -

- Preparation of a United Utilities water pipeline assessment to confirm that barrier pipe is not required
- Chemical testing of any imported material for use in landscaped areas to demonstrate that the material is suitable for use is to be carried out and submitted to the Council EHO
- Excess soil material to be disposed of at a suitable waste disposal facility with records retained and submitted to the Council EHO

A Watching Brief is to be instigated during the construction works to monitor and record any evidence of unforeseen contamination that may be discovered during demolitions, general site clearance, drainage, below ground services, substructure and foundation works.

The watching brief will be maintained for evidence of contamination. If evidence of contamination is identified then works in the area will stop pending further sampling and assessment and the Local Authorities Environmental Health Officer and the Environment Agency will be informed.

Delineation works will be undertaken and this may include collection of appropriate samples for laboratory analysis to further characterise the material and allow a risk assessment to be undertaken or removal of the impacted material to quarantine.

If obvious gross contamination is encountered then impacted soils will be carefully excavated and quarantined pending further testing and assessment.



Soil samples will be taken and analysed for a suite of contaminants, including *inter alia* Soil Organic Matter, VOCs, SVOCs, BTEX, TPHCWG and asbestos. Soil samples should represent the impacted area and, in order to determine that significantly impacted soils have been removed samples, will be collected from the base and sides of the excavation.

After analysis, quarantined material may be removed offsite to a licensed treatment facility or an assessment made of its potential for treatment and / or retention on site. Waste records such as disposal tickets and waste carrier licences should be provided in a Site Completion Report.

A Verification Report will be prepared on completion of any remedial works required under the Watching Brief.

3.0 Site Wide Considerations

A Construction Management Plan should be produced detailing appropriate Health & Safety measures to be employed during the site works stage of the project.

Risks to site workers and adjacent receptors from contamination present in the site soils can be easily mitigated by good environmental management of the site during site works. Standard health and safety precautions (as per HSE guidance) should be adopted by all workers involved with site enabling and construction works.

4.0 Pre-construction Phase Remediation

Processing of in-ground structures, hardstanding and oversize In-ground structures such as relic foundations, relic slabs and hardstanding will be grubbed up and, along with oversize material from the made ground, subjected to segregation, stockpiling and processing for reuse on site below roadways, path and driveways and around the building footprint as a construction or pile mat.

The material generated will comprise an engineered capping material (nominally 6F2 specification). These works will have suitable control measures to prevent the release of dust.

Potentially suitable site won material will be stockpiled separately for potential reuse as subsoil and 6F2. Suitably processed material will be stockpiled for potential reuse.

In order to assess the suitability of such materials each stockpile / type of material will be subjected to validation sampling and testing. The sampling suites, requirements and frequencies are to be agreed with the Local Authority EHO.

The destination of each stockpile / source of material will be denoted and reported.



5.0 Construction Phase Remediation

5.1 Introduction

The scope of the on-construction remedial works will comprise the following: -

- The watching brief for contamination during earthworks excavations with details of any unexpected contamination and the further assessment and mitigation steps to be undertaken (refer to section 2.0).
- United Utilities risk assessment for potable water pipes and installation of barrier pipes, as required.
- Details of material re-use on site and information on any off-site disposal.
- Validation testing of site won and imported material earmarked for use as topsoil, subsoil or recycled stone.
- Production of a materials management plan

5.2 Validation of Subsoil, Topsoil and Physical Aggregate Materials

Chemical validation of all site won and any imported soils to be used on site in landscaped areas and site won recycled material to be used for infrastructure should be undertaken. Imported soils should be accompanied by a certificate of analysis and source details as an initial screen.

Any soil with visual or olfactory evidence of hydrocarbons or asbestos containing material should be rejected. In addition, it should be ensured that the matrix of the topsoil is suitable as a growing medium and no undesirable material is present (in line with BS 388220). This should be the responsibility of the designated soil supplier.

Validation testing certificates shall be collated and included in the Validation Completion Report.

5.3 Potable Water Supply Pipes

A UU risk assessment will be completed. In the event that barrier pipe is required then the risk assessment should be approved by UU prior to any installation works.

Pipework should be installed in trenches back filled with first generation materials. For the purposes of the Validation Completion Report, a works notice, delivery notes indicating the source of the first generation backfill material and photographic evidence of this material in the trenches should be collated along with photographs illustrating the installation of barrier pipe.

5.4 Validation Completion Report

A validation completion report detailing the pre-construction and on-construction phase remediation works will be produced which will include: -

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- Watching brief for contamination during development works and any unexpected contamination and the further assessment and mitigation steps undertaken.
- Photographic evidence of appropriate gas protection measures.
- Installation of the correct water pipe specification and confirmation of the use of first generation trench backfill. As a minimum proof of connection by UU indicates UU are satisfied with the installed potable pipework.
- Validation testing of imported or site won subsoil, topsoil and recycled stone materials, as required.
- Waste transfer notes for any disposal

The aim of the on-construction validation report will be to demonstrate to the Local Authority that the site has been suitably remediated to the extent that the site is suitable for its proposed commercial end use.