

Date 21 November 2022
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Department for Operations

Jennie Townsend
Bury Council Planning Department

Dear Jennie

Land to the west of Lowercroft Road, Bury, BL8 3PA, Planning Application: 68971 – Contaminated Land

The Environment Section has received a copy of the following report:

- Geo-environmental Report, Land off Lowercroft Road, Bury, Delta Simmons, Reference: 16-0790.02, June 2017.

The Environment Section has reviewed the above information in order to assess the following points:

1. The adequacy of the desk study information available for this site.
2. The adequacy of the site investigation.
3. The adequacy of the final risk assessment.
4. The acceptability of the proposed remediation strategy.
5. Whether the information submitted is sufficient to determine that the site presents a low risk to human health and the environment.

The site has historically been in use as land associated with a Bleach and Dye Works with filter beds and later became developed as a Mill. Surrounding historical uses have included Lowercroft Bleach Works, Reservoirs, a rifle range and warehouses. Currently the site is vacant land and situated adjacent to housing and a business park.

The site is not situated within 250m of any registered landfill sites, but is situated above the Old Lawrence Rock Secondary A Aquifer which is overlain by Glacial Till. A reservoir is situated 72m to the south west.

The proposal is for the development of 4 detached houses.

1. The adequacy of the desk study information available for this site

The report includes a description of the site including its past historical uses. An appraisal of the site environmental setting is presented including its geology, hydrogeology and

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hydrological regime, mining activities, waste management issues, and identification of additional environmental sources, pathways and receptors. This information has been used to compile a clear site conceptual model, which identifies potential sources, pathways and receptors and likely pollution linkages.

A site walkover found the site surface was predominantly soft standing following the recent clearance of vegetation. Limited domestic waste was noted across the site, and concrete slabs were noted in the eastern area, assumed to be associated with the previous development. Waterlogged conditions were noted across the site. Small earth bunds were present along the eastern and southern edges of the site. No evidence was observed of potential contamination from fuel tanks, hazardous material stores or invasive plants.

Due to the historical use of the site an intrusive investigation was recommended.

The desk study information provided appears to be sufficient to assess the potential risks at the site.

2. The adequacy of the site investigation

The site investigation comprised the following:

Technique	No.	Comments
Window Sample Boreholes	5	DS101 – DS105. Three of the boreholes have been fitted with gas/water monitoring standpipes.
Soil samples	4	Tested for selected heavy metals suite, Total Petroleum Hydrocarbons (TPH), speciated Polycyclic Aromatic Hydrocarbons (sPAH) (EPA-16) and an asbestos screen.

Site Ground Conditions: Made Ground was encountered from the surface to depths of between 0.20 m and 1.40 m bgl and comprised brown clays and sands with varying proportions of concrete, brick, asphalt and clinker gravel. Frequent chipped wood and root fragments were also noted. A layer of soft yellowish brown to brown clay with varying proportions of sand and sandstone gravel was noted in all locations except DS101. Lenses of fine grey sand was noted in DS103C and DS104.

There were no visual or olfactory evidence of significant contamination in the Made Ground or the natural soil. The natural soil was considered to be generally representative of the published superficial geology for the site. Bedrock was not encountered within the dynamic sampler boreholes.

Site Water Conditions: Monitoring was undertaken on three occasions. Groundwater was encountered in DS101 between 1.79 and 1.80 m bgl.

Site Ground Gas Conditions: Monitoring was undertaken on three occasions: 27th April, 3rd May and 9th May 2017. No methane was detected and a maximum concentration of 1.6 %v/v carbon dioxide was found. Flow was <0.1 l/hr. Atmospheric pressure at ground level was measured between 1003 and 1010 mb.

This is considered insufficient monitoring and worst-case scenario conditions have not been captured with atmospheric pressure above 1000mb on all occasions. More monitoring rounds were planned but no further monitoring has been received.

3. The adequacy of the final risk assessment

Ground Assessment: The soil analysis results have been compared to the CLEA SGVs and LQM GACs for commercial end use, Category 4 Screening Levels (C4SLs) published by DEFRA and the 2014 Land Quality Management (LQM) / Chartered Institute of Environmental Health (CIEH) Suitable for Use Levels for Human Health Risk Assessment (S4ULs).

Heavy metals were identified above the laboratory limits of detection (LoD), however were below the associated guidance criteria for a commercial end use. TPH was identified in DS103 at 0.20 mbgl at a concentration of 9,400 mg/kg and characterised as PAH. This sample was resubmitted to the laboratory and speciated. Concentrations of speciated TPH were below the associated guidance criteria within each existing carbon fraction. Five individual PAH compounds were identified above the commercial guidance criteria in DS103 at 0.20 m bgl. Asbestos fibres were not detected in the samples tested.

It is anticipated that contamination is likely to be limited to the near surface soils and source removal in exposure areas (soft landscaping) may be a suitable robust remediation method. A 300 mm clean cover of 'suitable for use' topsoil may be appropriate. However, it is anticipated that the majority of the site will be covered in hardstanding. Stockpiles and any waste materials should be inspected for ACM prior to removal from site by a licensed contractor, if required. Care is required during these processes to not contaminate the ground. Existing soils on-site are considered suitable for use on site beneath areas of hardstanding or clean cover.

The above assessment has been carried out for the purposes of a Commercial end use, however, the proposal is residential with gardens. Please provide an updated site investigation and risk assessment in line with the proposed end use.

Please note that if material is to be imported to provide a cover system, the material will be required to be tested to prove that it is suitable for use. Details of the sampling strategy is required to be included in the detailed remediation strategy. Additionally, the depth of the cover system will be required to be validated.

Controlled Waters Assessment: Given the cohesive deposits and low permeability identified on site, the risk to Controlled Waters is considered to be very low. In addition, the majority of the site is anticipated to be covered in hardstanding, further limiting leaching potential.

As this assessment was carried out for commercial end use the assessment requires updating with the proposed end use (residential with gardens).

Ground Gas Assessment: The gas monitoring recorded low concentrations of ground gases and low flow. As the site is located within a high risk area with regards to coal mining, a precautionary Characteristic Situation 2 (CS2) should be adopted at the site

where basic ground gas measures are required. Further monitoring is recommended in order to further assess the risk in line with the proposed end use.

Please submit results of any further gas monitoring carried out and assessment of the results.

4. The acceptability of the proposed remediation strategy

Once the additional site investigation and risk assessment has been carried out, a detailed Remediation Strategy is required for submission.

All parties involved with waste and soil movement at the site should be aware that materials illegally deposited or deposited at inappropriate sites may be subject to relevant landfill taxes, payable by all parties. Only robust due diligence is a defence against joint liability. Illegal deposits can include moving waste soil material on sites, or between sites, without the appropriate permits, exemptions or duty of care.

5. Whether the information submitted is sufficient to determine that site presents a low risk to human health and the environment

In order for this Section to be satisfied that this development does not pose a risk to human health or the environment, the following information needs to be submitted to the Council for approval:

- (i) An updated site investigation and risk assessment using the proposed end use (residential with gardens), to include further gas monitoring and assessment.
- (ii) A detailed remediation strategy.
- (iii) A Materials Management Plan if the CL:AIRE definition of waste is to be used.
- (iv) UU water supply risk assessment.
- (v) After completion of site works, a verification report is required to validate that the work undertaken conforms to the remediation proposals received and agreed by this Section. The report would be expected to include the following:

- Summary of desk study, site investigation report and remediation strategy.
- Details of who carried out the work.
- Details and justification of any changes from original remediation strategy.
- Substantiating validation data that should include where appropriate:
 - Laboratory and *in-situ* test results.
 - Monitoring results for groundwater and gases.
 - Summary data plots and tables relating to clean-up criteria.
 - Plans showing treatment areas and details of any differences from the original remediation strategy.
 - Photographic and other media records.
 - Waste management details and records.
- Confirmation that remediation objectives have been met.

The above information will be required by planning conditions if planning permission is granted.

Please do not hesitate to contact me if you require any clarification of the above.

Yours sincerely

A handwritten signature in black ink, appearing to read 'J Scott', with a stylized, cursive script.

Judith Scott
Environmental Protection Officer

Please Note:

The Environmental Services Division has used all reasonable endeavours to determine the risk from contaminated land and ground gas based upon the information available to it. However, the comments made above should not be taken to imply that the land is safe or otherwise suitable for this or any other development. The responsibility for safe development rests with the