

PROPOSED RESIDENTIAL DEVELOPMENT**121 and 123 Tunstall Road****Knypersley****Staffordshire****CONTAMINATED LAND REMEDIAL STRATEGY****Dated: 02 10 20 Revision A 13 12 2021****Job No: 15-1597-3****BACKGROUND*****Ground Investigation***

This document should be read in conjunction with the following report ('GI Report'):

Report on Ground Investigation. Proposed Residential Development, 121 and 123 Tunstall Road, Knypersley, Biddulph, Stoke-on-Trent, Staffordshire. Prepared for J Littleton & Co Ltd by Sladen Associates. Report No: 15 1579, April 2020.

Development Summary

It is proposed to refurbish one of the existing buildings, to remove the second and to construct six new detached residences. The houses will have private gardens and there will be a new access road from the west, servicing the existing and proposed residences.

Land Contamination Considerations

The GI Report included risk assessments with respect to potential site users and controlled waters and concluded that the existing conditions posed no significant risk to those receptors. With respect to garden and soft landscaping areas, the report concluded that provided asphalt surface material was removed where present, no other special precautions were necessary to protect site users.

No special precautions were considered necessary with respect to controlled waters or ground gas.

Subsequent to the GI Report, the Local Planning Authority has recommended additional work in the area of a former above ground domestic heating oil tank, which is now removed.

Mining Legacy Issues

Work has been undertaken to locate and stabilize two mine shafts on site. The specification for the work was agreed by the Coal Authority prior to implementation and the works were undertaken with the permission of the Coal Authority. The treatment works have been documented in the following completion report:

Report on Shaft Locating and Stabilising Works. Proposed Housing Development, Tunstall Road, Knypersley, Staffordshire. Prepared for J Littleton & Co Ltd by Sladen Associates. Report No: 15 1579-2MC, August 2020.

REMEDIAL STRATEGY***Supervision***

The Developer will appoint a Site Manager who will be present during the critical aspects of the works. The site manager will be responsible for liaison with the various regulatory bodies so that, as far as practicable, where required the opportunity to observe any aspect

of the works is afforded. The site manager will also be responsible for ensuring that appropriate health & safety procedures, method statements and precautions are followed and that appropriate records of the works are maintained.

The Developer will appoint a suitably qualified geotechnical and environmental consultant to provide general guidance and appropriate site observation/inspection and verification testing, if required.

Land Contamination Discovery Strategy

Based on the site characterisation works undertaken to date, the existence of previously unidentified significant historical soil contamination is considered to be unlikely.

However, to manage any unexpected contamination encountered during development, should this occur, the Developer will have a Land Contamination Discovery Strategy in place to ensure that, if necessary, the following measures are undertaken/managed by a suitably qualified person/company:

- Appropriate sampling and laboratory analysis of potentially contaminated materials to assess the severity and scale of any suspected contamination.
- Comparison of the results against appropriate site assessment criteria for the land use.
- Liaison with the Planning Authority to agree appropriate investigation or remediation method statement(s) to address any identified potentially unacceptable risks.
- Implementation/verification of any agreed investigation or remedial works to the satisfaction of the Planning Authority.

Excavated Materials

The Developer will ensure that any surplus materials that are generated are appropriately classified for waste disposal purposes and despatched to appropriate receiving landfill site(s) or other waste disposal facility unless beneficial re-use is envisaged.

Suitable excavated materials may be re-used on site.

Soil Acceptable for Use Criteria

Unless justified by further risk assessment imported or re-used site won soil materials placed on site will meet the following requirements:

- Include no volatile substances in concentrations exceeding the relevant GAC (Generic Assessment Criteria) summarised in Table 1A to C and Table 2 of the GI Report, adjusted where appropriate for Soil Organic Matter Content.
- If placed within 600 mm depth below final site ground levels in garden areas or other soft landscaping areas; comply with all the GAC summarised in Table 1A to C and Table 2 of the GI Report, adjusted where appropriate for Soil Organic Matter Content, and contain no detectable asbestos.
- Be capable of meeting any required geotechnical performance criteria relevant to the proposed reuse area.

Site Won Soils

Site characterisation to date has confirmed that that the existing site soils would pose no unacceptable risk to site users and may be assumed to be acceptable for suitable use on site provided no visual or olfactory evidence of potential contamination is noted.

Imported Soils

Any imported soils will be sourced from reputable suppliers who will be required to confirm that the materials meet the Soil Acceptable for Use Criteria defined above.

Preliminary Site Enabling Works**General**

Asphalt, where present in proposed garden and soft landscaping areas will be removed.

Above Ground Tank Area

The following procedures will be implemented with respect to the former above ground tank area.

The ground level in the former above ground tank area will be excavated to a general depth of 0.8 m over a plan area extending 1m in each direction from the former tank footprint . Any visibly clean material will be stockpiled for potential re-use. Following the initial excavation, starting at the location of the former above ground tank, a deeper excavation to 1.5 m will be made. Where there is evidence of any residual hydrocarbon contamination in the exposed soils the affected soils will be excavated and either be removed from site or treated on site. The deeper excavation will be extended laterally and vertically to remove visibly contaminated soil. It is considered that the exact extent of hydrocarbon contamination, if any, may not become evident until during the excavation works. It is recognised that it may not be practicable to excavate to a depth needed to remove all locally impacted soil and a depth of 2.0 m or until groundwater ingress or nature of the soils makes further excavation difficult, whichever is less, is considered to represent a practical maximum excavation depth for this area.

Following removal of any visibly significantly contaminated soil, samples should be collected from the sides and base of the excavated area. Approximately one sample per 10 m² of exposed excavation face will be obtained but not less than four from the sides and one from the base. The samples will be placed in 500 ml wide mouthed sample jars that will then be covered with aluminium foil and a screw top lid. Samples will be allowed to stand for about half an hour prior to carrying out headspace analysis. This analysis will be carried out using a photoionisation detector (PID meter) the tip of which will be inserted through the aluminium foil into the headspace above the sample. The PID meter will be calibrated to read benzene or isobutylene equivalents. The detection limit of the PID instrument that will be used should be no more than 1 ppm volatile organic compounds (VOC's). Where VOC levels exceed 150 ppm using this method, consideration will be given to removal of additional material.

When VOC levels in the soil fall below this limit using the PID meter, additional samples will be collected from the excavation and will be submitted to a laboratory for analysis. Testing will be undertaken to determine speciated Total Petroleum Hydrocarbons (TPH). Generally if TPH levels are found to be lower than the GAC criteria (Table 1B of the GI Report) and total BTEX is less than 6 mg/kg, the area may be deemed to have been remediated.

The excavated areas should be backfilled using either clean excavated material or clean imported fill.

Construction Precautions

Basic gas/vapour exclusion measures will be provided for residential structures. These will comprise a suspended ground floor with a passively vented under-void and a continuous membrane below the floor surface and through any new walls.

Details of the currently proposed system are attached.

Verification Plan

Verification of the proposed remedial works will comprise the following elements:

- Records will be maintained of the, source nature and volume of imported soil materials.
- Records will be maintained of the volume and fate and chemical testing of any materials either re-used on site or removed from site.
- A report will be prepared following the above ground tank area work documenting the work and including risk-based recommendations for any further appropriate remedial precautions deemed necessary.
- The installation of the proposed gas/vapour protection membrane will be verified as part of the building control process.

Where necessary remedial work will be undertaken to address any failure to meet specified requirements and appropriate additional verification testing undertaken.

Verification and Completion Report

Upon completion of the project, all tracking forms and verification test data will be collated and a final Verification Report produced. The objectives of the Verification Report will be to confirm that proposed remedial precautions have been implemented, that only materials complying with the acceptance criteria have been incorporated into the final landform and that such materials will not therefore pose an unacceptable impact to future site users or controlled waters following the development works.

ATTACHMENT: DETAIL FOR GAS/VAPOUR PROTECTION MEASURES

detail gas membrane scale 1.100 A3format pdf

cavity not shown for clarity

