



Date 25 February 2022
Reference CL042.210222.1
Website www.bury.gov.uk

Department for Operations

Jennie Townsend
Bury Council Planning Department

Dear Jennie

Derby Garage, Manchester Road, Bury, BL9 9NS, Planning Application: 67476 – Contaminated Land

I write regarding the above planning application. The Environment Section has received a copy of the following report:

- Preliminary Land Quality Risk Assessment for Proposed MFG EV Power Site Development at Derby Garage, Bury, BL9 9NS, SLR, Reference: 427.12665.00001, December 2021.

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

1. The adequacy of the desk study information and preliminary risk assessment.
2. Whether the information submitted is sufficient to determine that the site presents a low risk to human health and the environment.

The site is currently occupied by a closed petrol filling station. Surrounding current uses include residential and commercial and industrial premises. Previous uses at the site and in the surrounding area have included Redvales Tannery, Derby Works (Building Materials), Derby Works (Rubber), garages and a timber yard. The site is not located within 250m of a known landfill site, but there are a number of possible areas of fill within 100m of the site. The site is located approximately 380m from the River Irwell and is underlain by glacial till over the Trencherbone Rock Secondary A aquifer.

It is understood that the proposed development comprises the demolition of existing petrol forecourt and sales building including the underground fuel storage tanks and infrastructure. Followed by the construction of an electric vehicle (EV) charging hub including a new sales building; 8 no. EV chargers (150kw) with EV canopy and EV infrastructure; installation of new jet wash and a new electricity sub-station.

Background

The site has had a history of fuel leaks. In October 2000, approximately 2500 litres of unleaded lead petrol was lost from Tank 5 due to a broken line (Line 5). Remedial

action including pump and treat, was undertaken between December 2000 and November 2003. However, the pipe work became clogged and phthalates (plasticizers) were found in the pipe work. The source of the phthalate plume was thought to be an adjacent site. Investigations found that the plume of hydrocarbon and the plume of phthalates appeared to converge south of the garage forecourt. The pump and treat pipework was decommissioned in 2003.

Further investigation and remedial action was then undertaken by RSK and RemedX from 2008 onwards and free-phase LNAPL was found to be present in several wells, a large dissolved phase contaminant plume and mass of VOCs vapour were also present. A multi-phase extraction system, vapour phase treatment system and soil vacuum extraction system was installed at the site during June and July 2011 and operated between August 2011 and March 2012. A total of 343m³ of groundwater was extracted, treated and discharged and 334kg of vapour phase hydrocarbon contaminant was removed. Monitoring results at the time indicated that all free phase LNAPL had been removed and the concentrations of the hydrocarbons within the groundwater had been significantly reduced.

A second leak occurred in April 2017 when approximately 11,000 litres of super unleaded petrol was lost due to a leak from one of the underground storage tanks (Tank 3). Derby Garage has been closed ever since. Emergency clean up action was undertaken to recover product from the existing network of boreholes on site and approximately 2500 litres of fuel was recovered.

WSP were employed to investigate and assess the extent of the spill. LNAPL skimming was undertaken by WSP in October 2017. A soil vapour extraction (SVE) and catalytic oxidation/granular activated carbon treatment system was then installed to remediate and remove the hydrocarbon contamination which operated between April 2017 and December 2018. A programme of groundwater monitoring was then carried out between January and February 2019. Based on the work carried out by WSP, by September 2018 6892 litres of the 2017 leak had been recovered, which is 62% of the total volume of fuel lost. The remaining 38% (approximately 4000 litres) is thought to remain trapped around the existing buried infrastructure and below the groundwater table in saturated zone soil. Contamination from the October 2000 leak may also exist at the site.

Only limited post-remediation groundwater monitoring was undertaken and no remediation completion report was produced by WSP. It is understood from the December 2021 SLR report that there a number of WSP reports produced by WSP between September 2017 to May 2019. A copy of these reports has not been provided.

SLR Consulting then undertook groundwater monitoring using existing boreholes to determine the level of contamination still present on the site. Groundwater monitoring and sampling data from July 2020 has previously been received.

1. The adequacy of the desk study information and preliminary risk assessment

A desk study and preliminary risk assessment has been produced by SLR in December 2021.

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 hydrological regime, mining activities, waste management issues, and identification of additional environmental sources, pathways and receptors. A full review of the significant number of existing ground investigation and monitoring reports has been carried out and includes an assessment of more recent groundwater monitoring undertaken by SLR in July 2020, March 2021 and November 2021.

Ground conditions at the site comprise granular made ground containing ash, concrete and brick between 0.8m and 4.2m thick, but most typically 3.0-4.2m thick in the vicinity of the tank farm. The underlying natural drift deposits comprise interbedded clays and sand and gravel layers (glacial till) to in excess of 6.45m bgl. Bedrock has not been encountered in any of the investigations.

The most recent SLR Consulting investigations included an audit of the 30 no. groundwater wells identified on site, and monitoring and sampling of the wells found to be viable:

Technique	No.	Comments
Groundwater monitoring	3 Rounds (Jul 2020, Mar 2021, Nov 2021)	A total of 16 of the existing boreholes were found to be viable. 13 no. wells were monitored on 3 occasions (BH2 (2000), BH2 (RSK), BH7A (RSK), RW1, RW2, RW3, RW4, RW7, RW8, WSP102, WSP103, WSP105 and WSP106). WSP104 was monitored in July 2020 and November 2021 and RW13 and WSP101 in July 2020 only.
Groundwater samples	3 Rounds (Jul 2020, Mar 2021, Nov 2021)	Groundwater samples were taken from 12 boreholes (BH2 (2000), BH7A (RSK), RW1, RW2, RW3, RW4, RW7, WSP102, WSP103, WSP104, WSP105 and WSP106). Not all boreholes were sampled on all 3 occasions. Samples were tested for a suite of analysis that included TPH, BTEX, MTBE and speciated PAHs.

Groundwater levels were found to be between 2.82 and 3.90m bgl. Free product/LNAPL and a petrol odour was encountered in WSP104 (0.031m thick – July 2020) and WSP105 (0.012m thick – July 2020 and 0.006m thick – March 2021). Both these boreholes are located downgradient of the Tank 3 leak. No LNAPL was encountered in WSP104 or WSP105 during the last monitoring round in November 2021.

The following potentially elevated levels of contaminants were identified:

Contaminant	Location and max concentration (mg/l)
Dissolved hydrocarbons >10mg/l	RW1 (33), RW2 (30), RW3 (13), WSP104 (26), WSP105 (23), WSP106 (19)
Dissolved hydrocarbons >1-10mg/l	RW4 (2.2), RW7 (5.4), RW8 (3.6), WSP102 (1.1), WSP103 (2.5)
Benzene >0.01mg/l (LOD)	RW2 (0.51), RW3 (0.26), RW7 (0.10), WSP103 (0.17), WSP104 (1.11), WSP105 (0.07), WSP106 (0.02)
MTBE >0.01mg/l (LOD)	WS103 (0.02)

The SLR monitoring results indicate that levels of contamination have significantly decreased since November 2018 (near the end of the WSP remediation programme). However, there is still residual hydrocarbon contamination in the groundwater beneath the site.

The desk study and site investigation information has been used to compile a clear site conceptual model, which identifies potential sources, pathways and receptors and likely pollution linkages. The consultant considers that following contamination is likely to be present on the site:

- Petroleum hydrocarbon contamination in soil particularly around the underground infrastructure of the petrol including tanks, pump islands and drainage.
- Petroleum phase hydrocarbons dissolved in groundwater.
- Heavy metals and asbestos containing materials in the made ground.

The following pollution linkages are potentially likely to be present:

- Potential risk to human health from indoor inhalation of hydrocarbon vapours both on-site and off-site via preferential pathways such as drainage. A gas and vapour risk assessment is recommended as part of a remediation strategy.
- Potential risk to groundwater from residual LNAPL that maybe trapped around underground structures following the previous groundwater remediation. Dissolved hydrocarbons and BTEX compounds are still present in the groundwater. Further risk assessment as part of a remediation strategy is recommended.
- Potential risk to buildings from gas and hydrocarbon vapour ingress and to potable water supply pipes from soil and groundwater hydrocarbon contamination. Further assessment to include a DQRA and remedial action is required.

The potential risk to human health from direct contact with contaminated soils or shallow groundwater is considered low as the development will comprise entirely hardstanding and does not include any areas of soft landscaping. The risk to surface watercourse is considered low due to the distance to the River Irwell located 380m to the west. Any potential risk from migration of hydrocarbon contamination would be reduced by the source removal that will be required to develop the site.

The desk study information and preliminary risk assessment provided appears to be sufficient to assess the potential risks at the site. This Section is in agreement with the conclusion that further sampling and risk assessment of the residual contamination should be combined with the excavation and removal of the existing petrol station infrastructure. A remediation strategy is required which includes details of the proposed additional investigation and risk assessment.

As the development includes the demolition of an existing building, it is recommended that a pre-demolition asbestos survey is undertaken. Validation evidence to demonstrate that any asbestos containing materials have been removed will be required.

Please note that the Environment Agency is the regulator of controlled waters and as such need to be consulted and forwarded copies of all the relevant information for this site. This Section will require confirmation that the Environment Agency has approved the risk assessment and recommendations.

2. 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) Copies of the WSP reports produced between September 2017 and May 2019 listed in the December 2021 SLR report.
- (ii) Pre-demolition asbestos survey report and confirmation asbestos containing materials have been removed, including waste transfer documentation.
- (iii) A detailed remediation strategy and materials management plan.
- (iv) Environment Agency approval for the controlled waters risk assessment, remedial actions and subsequent validation.
- (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 above information will be required by planning conditions if permission is granted.

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

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Yours sincerely



Rebecca Jones
Environmental Protection Officer

Please Note: The Environment Section 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 developer.

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