PART 2A OF THE ENVIRONMENTAL PROTECTION ACT 1990

THE BARONY, NANTWICH

NON-TECHNICAL SUMMARY OF INVESTIGATIONS
AND
WRITTEN STATEMENT OF NON-DETERMINATION

DECEMBER 2013

Introduction

In accordance with Part 2A of the Environmental Protection Act (EPA) 1990, the Council has an obligation to investigate all land which may be potentially contaminated as a result of its previous use. The purpose of the investigation is to determine the amount of pollution on the site (if any) and the potential for it to have an impact on the environment, including adjacent land. Whilst the majority of potentially contaminated sites are dealt with through the planning regime, there are a number of sites which will not be subject to redevelopment and therefore the Council needs to look at these sites retrospectively with a view of what the site is currently used for.

The risk assessment process began with a screening exercise of all known landfills in Cheshire East being undertaken. This screening was risk based and took into account a number of factors, such as the age of the landfill, the proximity of sensitive receptors (housing, groundwater etc.) and the type of waste that was accepted. The outcome of this exercise was that the Barony in Nantwich was identified as a site which required further investigation, due to its previous use.

Site Description

Prior to the site being developed for recreational use, historical maps show the site was formerly occupied by a brickworks and associated clay pit, and subsequently part of the site was used as a ‘refuse tip’. The site was filled with domestic waste by the local authority between the 1950s and 1970s.

The site is located in a predominantly residential setting. The site is bounded to the north, east and south by residential housing; a cemetery, nursery school and mixed light industrial/commercial premises are present to the west. The site area is approximately 9 hectares and the majority is covered by well maintained grass (including football pitches), with mature trees around much of the perimeter. There is a small car park on the north western edge of the site.

Roads border all sides of the site: Barony Road to the south west; Park View to the south east; Sandford Road to the east/north east; and Middlewich Road to the north.
west. Barony Park Sports Complex (including a club house, tennis courts, all weather pitches; and bowling green) is located to the east of the site; and is accessed from Barony Road.

Figure 1 shows the site investigation boundary and site location. The Barony playing fields themselves extend further south than this red line boundary, however the area of former landfilling was limited to the north of the site. This was the area subject to investigation.

Investigations Undertaken

Previous Investigations

Cheshire East Council commissioned the first stage of a contaminated land investigation in 2010 (known as a Phase I preliminary risk assessment). This was a desk-based study of available information for the site, which concluded that there were several potential contaminant linkages requiring further assessment. Contaminant linkages are viable ways for potential contamination to impact sensitive receptors, such as the users of the site, local residents, properties and Controlled Waters.

Cheshire East Council also undertook two limited intrusive investigations of the site in July 2010 and March 2012, which comprised limited soil sampling and gas monitoring via a hand pit excavation exercise.

The results of the above investigations led Cheshire East Council to commission a full Phase II site investigation in March 2013, which is the second, more detailed, phase of a contaminated land assessment.

Recent Investigations

The Phase II site investigation at the Barony was carried out in June 2013. Fourteen boreholes were drilled and six shallow hand pits excavated on the site over the course of two days. Ten of the boreholes were installed with monitoring wells so that return visits could be made to the site to measure groundwater quality and ground gas concentrations.

During the investigation, the site was found to be covered with a variable thickness of man-made ground comprising two distinct horizons:

- An upper cover layer of 0.2-0.4m thickness consisting of sandy soils with some fragments of brick, pottery, charcoal, glass and occasional plastic; and
- A lower ‘waste’ layer of 0.3-3.35m thickness consisting of sandy gravelly fill material including brick, coal, clinker, wood, glass, ash, pottery, bone and tarmac.

Below this man-made material, there was glacial till which consisted of firm-stiff red clay with blue/grey veining. Sometimes, sandy clay was encountered in between the man-made material and the firm-stiff clay.

Laboratory results for the analysis of the soils were compared with conservative Generic Assessment Criteria (GAC). The GAC are based on a number of factors, such as the toxicity of the chemicals, their physical properties and the way they interact with human
biology and the environment. Elevated concentrations of arsenic, lead and a group of compounds known as poly-aromatic hydrocarbons (PAHs) were identified. Further assessments were undertaken and subsequently only one PAH was found to be a potential contaminant of concern.

A detailed risk assessment was undertaken for this PAH, where the use of the playing fields was modelled more thoroughly. The results of this additional modelling showed that no significant health risks from the soils were likely for the site.

The results of the groundwater analysis showed some elevated concentrations on site compared with water quality standards. However, after additional risk assessment, these contaminants were not found to pose significant pollution risks to controlled waters receptors.

Ground gas monitoring was undertaken at regular intervals on the site from June to November 2013. Concentrations of methane, carbon dioxide and oxygen were typically measured, with the flow rates (i.e. how quickly or slowly gases were leaving the ground) also measured. The results of the numerous rounds of monitoring were used in a risk assessment, which concluded that the risks posed by bulk gases were found to be low.

Conclusions

On the basis of this comprehensive report, Cheshire East Council has concluded that, unless new information comes to light, the Barony site is not considered to warrant determination as Statutory Contaminated Land under Part 2A of the Environmental Protection Act 1990.

Furthermore, in line with the Contaminated Land Statutory Guidance (DEFRA, April 2012), on the basis of the information collated to date, Cheshire East Council does not propose to continue with any further investigation on this site at this time.

Cheshire East Council has designated this site as Category 3 under Section 4 of the Contaminated Land Statutory Guidance. Land can be placed into one of four categories under the guidance; Categories 1 and 2 would encompass land which is capable of being determined as Contaminated Land, whereas Categories 3 and 4 would encompass land which is not capable of being determined on such grounds.

If a site is placed into Category 3, this means that the Authority does not consider that the risks posed to relevant receptors are high enough to warrant formal determination as Contaminated Land. Therefore, unless new information comes to light in the future, regulatory intervention under Part 2A of the Environmental Protection Act 1990 will not take place.