



**HALTON BOROUGH COUNCIL**  
**CONTAMINATED LAND STRATEGY**

**2008 – 2013**

**1. INTRODUCTION**

Halton Borough has a legacy from the Victorian chemical industry; the Borough is one of the most chemically contaminated in Britain.

Since the formation of Halton Borough Council in 1974, it has been determined to change the contaminated environment and consequently the detrimental image left by the social heritage of decay and dereliction. Since 1974 there have been massive improvements to the environment, chemical waste tips have been transformed into golf courses, parklands and nature reserves and watercourses have been cleaned up to again sustain fish and plant life.

Many of the Victorian factories have now been closed and demolished leaving behind sites that are contaminated with plumes of solvents, petrochemicals and PCB's that are affecting the near surface ground waters. These sites are very problematical to bring back into productive use again and have lain empty and derelict for many years. It is only in the last few years that 'Alternative Technologies' have become available and acceptable for dealing with these problem sites. Also, the world of waste disposal has become highly regulated and highly taxed which has made the practice of 'dig-n-dump' unacceptable, unsustainable and also extremely expensive. The current accepted approach to remediation of a site is to treat the contamination and leave it safely on the site built into the infrastructure of the site. Some of the technologies used can actually improve the ground strengths as well as treating the contamination, even to the extent that treated waste can be used as aggregate for road building and foundation works.

Over the last 5 years the Council has worked closely with the innovation providers and the Environment Agency to find sustainable solutions to Halton's chemical legacy problems. The main contaminant in Halton is a waste locally called 'Galligu'; this is a sulphurous mud waste from the caustic soda and soap industry and can be found in massive quantities widely spread across the borough. It was usually tipped up to 5m deep on low-lying marsh areas adjacent to the River Mersey, which are subject to tidal influences. This causes significant leachate issues to the watercourses and the River Mersey. One of the technologies found to work extremely well with the treatment of Galligu is cement stabilisation and Halton Borough Council has led the way nationally in the development and use of this technology. There have been several large developments

carried out on Galligu sites, made possible by the use of cement stabilisation. It has been proved by extensive testing that the process is successful, robust, economically viable and sustainable. The most important aspect of the process's development has been the work carried out to prove to the Environment Agency that the technology works and meets all the stringent standards required by today's Environmental Regulations.

The acceptance of the process by both the EA and private developers has now opened up many development opportunities on these long standing contaminated derelict ex chemical industry factory sites and tips.

Over the last two years there has been a significant amount of remediation carried out on both Council and privately owned sites within the Borough.

- The mound of hazardous contaminated material outside the front door of the Brindley Arts Centre has been removed in preparation for the Canal Quarter development.
- The new Carterhouse Way road on the EDZ has been built over contaminated ground opening up access to development sites.
- The new Homebase site in Runcorn has been developed using innovative cement stabilisation to overcome contamination issues.
- The first works associated with the 3MG rail terminal has been completed using cement stabilisation to overcome difficult contaminated ground conditions.
- The Youth Activity Park in Castlefields has been completed on a previously derelict brownfield site.
- Several smaller contaminated private sites have been re-developed using new technologies after advice and support from the Council.

This strategy document is current and it should be read in conjunction with the Council's Contaminated Land Inspection Strategy, which is appended to this document as Appendix 1. It is intended that this strategy will cover a five-year period up to the end of 2013. A new annual review will take place to take progress into account and any major changes in practice or policy.

## **2. IMPLEMENTATION OF THE STRATEGY**

The strategy will look at the following key areas:

- New technologies
- Characterisation of the problem sites
- Prioritisation
- Working with Partners
- Funding
- Remediation and after uses
- Environmental regulations
- Council owned sites

### **2.1 NEW TECHNOLOGIES**

Over the past decade numerous technologies have emerged mostly from America, Holland and Germany. These technologies have been developed to make safe and immobilise contamination on sites to allow the sites to be re-developed without the need for extensive/expensive removal and dumping. The actual cost of dig-n-dump is even higher than just the tipping charge as for every ton of contamination removed you inevitably have to import a clean ton of suitable fill material to make the site back up to the

original ground level. With the new aggregate taxes in place this practice is equally as expensive.

Back in 2001 the Council held a seminar and invited representatives from all the leading technology providers. Delegates were shown the extensive problems that developers of sites in Halton were experiencing and they were asked to take away samples of Galligu and test them in their laboratories to see if their technologies showed any promise of success in treating the wastes. Of the 40 technologies represented, we only heard back from 4 of them and these were all cement stabilisation related technologies. Following extensive meetings and negotiations, the Environment Agency (EA) agreed to allow site full-scale trials of the technologies to see if the process worked and that it could be implemented on site. The Council agreed to fund the trials and these were carried out over a full week on a council owned site. The trials proved invaluable as they fully involved the EA allowing them to gain a full understanding of the process and also for the contractors as they soon discovered the idiosyncrasies of working with thixotropic Galligu. The resultant treated wastes were greatly improved both physically and chemically, locking up the contaminants and making the waste inert. This process has now been accepted by the EA and has been used several times to resolve Galligu issues on sites allowing the development of retail, roads, car parking and landscaping. Many more Halton sites are currently proposing to use the process following the success of the early sites. The forward thinking and willingness of the council to try out these new technologies has put the Council at the forefront of local authorities in terms of remediation technologies and regularly advises both private developers and other Councils.

Other technologies have been employed to solve particular site-specific issues, these include permeable reactive barriers, bentonite walls, activated carbon treatment, bio-remediation and vapour extraction. All of these technologies have been used on a reduced basis but have proved vital in the full remediation of sites. It is now possible for the Council to literally pull a technology 'off the shelf' and combine it with other technologies to solve the specific issues of most sites within the Borough.

## **2.2 CHARACTERISATION OF THE PROBLEM SITES**

The main problem sites in the Borough are clustered around the banks of the River Mersey, these were the sites that the Victorians chose for their chemical factories, being close to the river to dispose of untreated effluent and close to the low-lying marsh areas to dispose of the chemical wastes. Currently, there are approximately 400 hectares of problem sites within the Borough adjacent to the river. The Council is promoting the re-develop most of these areas, which include the Widnes Waterfront Economic Development Zone, the 3MG strategic rail freight facility and the Mersey Gateway river crossing. These are all key re-development catalysts for Halton that have the potential to bring large areas of derelict contaminated land back into productive use.

The remediation of sites directly by the Council has reduced over the past 10 years as a result of changes in Government funding. No longer can sites be cleaned up/remediated without an end user in place for hard end use schemes and also the funding for green end use schemes has greatly reduced. It is now a priority to advise and help developers remediate sites to a suitable standard for their intended development after uses.

The 'contaminated land' funding has been key to the procurement of the detailed site investigation contracts that have informed the development of the Council's priority developments i.e. 3MG and the EDZ. Without this information during the early days of the programmes it would have been very difficult to either secure public funding or gain the interest of private developers. The most detailed study has been on the site of the previous Pilkington Sullivan works, within the EDZ area, where high levels of solvents and PCB's have been found and a very detailed remediation strategy will now have to be agreed with the EA prior to re-development. A further site investigation has been carried out in the Canal Quarter in Runcorn; English Partnerships funded this. This study has proved invaluable in informing and gaining the confidence of the developer to proceed with the development knowing the risks associated with the contamination.

### **2.3 PRIORITISATION**

The sites that are causing risk to human health are a priority to be made safe; this can be achieved as simply as fencing the site to restrict access by the public. However, the long-term solution is to clean up or treatment to stabilise the site and remove all linkages to receptors such as humans, watercourses, wildlife and plants. The work currently underway in the Widnes Waterfront EDZ programme and the 3MG project is addressing a significant number of these sites and will lead to measurable improvements to the environment.

### **2.4 WORKING WITH PARTNERS**

Partnership working is the main driver for development of contaminated derelict sites in Halton and brings significant private funding into the borough. The partnerships that the Council are engaged in include private developers, landowners, funding agencies, Government Departments and regulatory authorities such as the Environment Agency. All these are essential to bring forward the development of contaminated sites.

### **2.5 FUNDING**

Without funding nothing will happen. As in all walks of life at present funding is becoming harder to find and harder to gain approval for. For contaminated land remediation the main sources of funding come from

DEFRA and the Northwest Development Agency. Both have very long convoluted systems of application that have no guarantee of success making the development of projects an uncertain process. Halton Borough Council have funded, via Neighbourhood Renewal Funding an annual fund for the early development costs incurred prior to gaining external funding. This has proved very successful and has allowed many developments to progress to a fully implemented scheme. The DEFRA funding is related to Part IIA of the Environmental Protection Act, sites have to be declared contaminated before DEFRA main scheme funding becomes available. This is a long and very complicated process, for instance the St. Michael's Golf Course scheme has taken 3 years so far and we still are working with the EA to gain approval for the remediation of the site and the release of the substantial funding required from DEFRA. From April 2008 onwards Workforce Neighbourhoods Fund is replacing the Neighbourhood Renewal Funding and fortunately the funding for contaminated land will be carrying on. It is also possible to gain smaller amounts of funding from the landfill operators under the Landfill Tax scheme as long as the scheme is a community project.

## **2.6 REMEDIATION AND AFTERUSES**

The redevelopment of sites for a hard end use such as retail, warehousing and housing is not always possible as in this borough we have severe contamination issues that restrict the hard end use of some sites. These sites are then only suitable for a green end use such as playing fields, parklands, golf courses etc. The Council has been working closely with English Partnerships in the development of the National Brownfield Strategy. We have put forward suggestions for a new policy to allow for a brownfield/greenfield swap. The idea is that a developer will be allowed to build new housing on greenfield land in exchange for the remediation and greening of a brownfield site. These brownfield sites will generally be closer into the heart of the community where a 'green lung' is required and the development of the new housing on greenfield will also be where people want to live. The idea is that there should be a ratio of say one acre of greenfield for the remediation of 2 acres of brownfield. This could be either a monetary (roof tax) contribution or the actual works from the developer.

## **2.7 ENVIRONMENTAL REGULATIONS**

The remediation of sites is getting harder and far more expensive as new regulations are implemented. It is now becoming extremely expensive to take any contaminated material off site to tip as most material will now require pre-treating prior to it leaving site to make it as safe as possible. The introduction of landfill tax and the reduction in the number of tips allowed to accept contaminated material makes the actual tip charges higher and haulage distances are significantly increased. This all leads to the retention of as much as possible on site, which is only possible with the use of the new technologies previously mentioned. Tougher clean up

standards and monitoring are then applied by the EA to ensure that the remediation is sustainable and robust.

## **2.8 COUNCIL OWNED SITES**

The Council does own a significant proportion of contaminated sites, which require clean up, remediation and redevelopment. Most of the sites are within the programme areas mentioned previously and are being re-developed in partnership with developers. However, occasionally there are opportunities to remediate a site directly by the Council, but only if Council funding is available. E.g. The Brindley Mound. The St.Michael's Golf Course is Council owned and will be remediated back to a golf course using DEFRA funding. This is only possible following designation as a contaminated site and it's registration under Part IIA.

## **3.0 THE WAY FORWARD**

The changing picture of contaminated land remediation has led to a change in the way Halton Borough Council cleans up the Borough. Years ago there were massive reclamation projects like the St.Michael's golf course, Pickering's Pastures, Sunny Bank and Spike Island carried out using Derelict Land Grant and Mersey Task Force funding which helped greatly change the image and environment of the Borough. However, such funding no longer exists and new ways of cleaning up the contaminated sites have to be found. Currently, the way forward is to encourage partnerships with the private sector under which the Council can offer sites freely to developers to help meet the funding gap created by the cost of the remediation.

The goal posts for funding for remediation are always changing and the Council must be flexible to adjust towards any new funding made available in the future.

The Defra funding for contaminated land remediation is available at present, but is likely to be drastically reduced over the next few years. It is also very hard to gain, as there are many long arduous processes to go through to gain the correct status for the site to attract funding.

The North West Development Agency funding for contaminated land remediation has to be linked to the development of a site and cannot be used for speculative development. There is also an NWDA supported programme for the remediation of sites back to green end use, this is called the Newlands Programme. However, as Halton's sites are very complex and highly contaminated, hence expensive to reclaim, the Newlands Programme does not include them.

The Working Neighbourhoods Fund will be supporting the continuation of the 'contaminated land' budget, which is most important for the initial stages of site assessment and development.

#### **4.0 LINKAGES TO RELATED STRATEGIES AND PRIORITIES**

Contaminated land is one of the key issues highlighted in the Council's Urban Renewal strategic Review 2007-2010 where it is recognised that the remediation of contaminated land is key to the redevelopment of the many hectares of brownfield land in the Borough.

In the 2005 State of Halton report 'contaminated land' was highlighted as one of the key challenges facing Halton. The Community Strategy has grouped the challenges into five key themes, which are:

- A Healthy Halton
- Halton's Urban Renewal
- Halton's Children and Young People
- Employment, Learning and Skills in Halton
- A Safer Halton

Of these five key themes, contaminated land remediation will feature in two of them, Healthy Halton, Urban Renewal. The Specialist Strategic Partnerships (SSP's) have been set up to design and deliver these strategies and action plans. The action plan targets the reclamation of 50 hectares of derelict land to be brought back into beneficial use by 2011 and for 50% of all new housing to be built on brownfield sites. We are on course to achieve and better these targets.

Halton's key development programmes are fully supported by the contaminated land strategy. Indeed very little development would happen in the EDZ, 3MG and Castlefields programmes without the support.