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Public Protection

Environmental Health Department

**Monmouthshire County Council's Contaminated Land Inspection
Strategy – Progress Summary**

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Introduction

Monmouthshire County Council's Contaminated Land Inspection Strategy was written in September 2002 to fulfil the Council's legal obligations under Part IIA of the Environmental Protection Act 1990, and the Welsh Assembly Government's Part IIA Statutory Guidance on Contaminated Land.

The Strategy details the arrangements and procedures that the council will use to inspect potentially contaminated land in the County.

The strategy details the aims and objectives of the strategy and provides timescales for achieving priority actions. It also details how the information gathered during the inspection process will be managed and what action would be taken after interpretation of the inspection results.

The 2002 Contaminated Land Inspection Strategy is available on request or on M.C.C's website:

<http://www.monmouthshire.gov.uk/home/for-businesses/advice-and-legislation/contaminated-land>

Progress with the Strategy

In September 2008 Environmental Health undertook a review into progress with the Strategy and concluded that insufficient progress had been made, with a number of timescales for achieving priority actions having been missed.

To make up this lost time an enhanced strategy was approved by Cabinet that allowed Environmental Health to significantly speed up the process by identifying all potentially contaminated land sites based on historical maps dating back to 1800's and digitally mapping all of these (approximately 2,500) onto an integrated GIS/risk assessment software program. Once mapped each of these was prioritised into six levels of risk by undertaking a Phase 1 risk assessment based on potential hazards/harm from the historical or current usages and the sensitivity of the current use. Each site had four risk assessments undertaken to assess potential risk to the four main receptors that Local Authorities have a duty to inspect under Part IIA. These are Human Health, Groundwater, Surface Water and Ecology/property.

This enabled the authority to significantly progress the Strategy by producing a prioritised list of sites to be investigated further based on the basic risk assessment.

This list was then further refined, and additional sites added that were not shown on historical mapping, for example the closed landfill sites and licensed petrol stations.

In addition the forty five highest risk sites (A priority) were subdivided into two categories, A1 (Very high risk) and A2 (High Risk), as there was a clear divide in terms of the final risk score (FRS) as nine of the sites scored 72 (now called A1) and the remaining thirty six scored between 49 and 61 (now called A2). This will enable a more targeted approach to investigation of the 9 top scoring sites.

As such the first two stages of the Contaminated Land Inspection Strategy have been completed, by identifying all (so far as possible) potential contaminated land sites, risk assessing them and prioritising them into a list for further investigation. When further sites are identified they are mapped, risk assessed and prioritised.

The next stage would be to undertake full desktop studies on each of the sites to gain a better understanding of the risk. To date one desktop study has undertaken on one of the highest risk sites currently occupied by eight to ten residential properties.

Prioritisation of Monmouthshire contaminated land sites

The following table shows the Risk Category and the number of sites in the band for the Human Health risk assessment

Risk Category	Category Name	FRS range	Number of sites
A1	Very High	70+	9
A2	High	49 - 69	36
B	Medium-High	36 - 48	87
C	Medium	20 - 35	264
D	Low-Medium	10 - 19	393
E	Low	0 - 9	1691

A closer analysis of the historical nature of the sites and the current land use for the 45 sites in the two High Risk band shows the following detail.

Former Land use	Current Land Use	FRS	No. of sites
Metal manufacturing: Iron and steelworks	Housing with gardens	72	5
Gas works, coke works, coal carbonisation plants	Housing with gardens	72	2
Oil refineries & bulk storage of crude oil and petroleum products	Housing with gardens	72	1
Chemical manufacturing general	Housing with gardens	72	1
Waste: Landfills and other waste treatment & disposal sites	Recreation/sports ground	61	2
Pulp and paper manufacturing works	Housing with gardens	60	4
Machinery: engines, building & general industrial [manufacture]	Housing with gardens	60	4
Textile works and dye works	Housing with gardens	60	1
Dry-cleaners	Housing with gardens	60	1
Waste: Landfills and other waste treatment & disposal sites	Grass area (public or private)	49	15
Waste: Landfills and other waste treatment & disposal sites	Woodland	49	7
Waste: Landfills and other waste treatment & disposal sites	Fields/Farm land (unspecified)	49	2
Total			45

Of the above A2 sites, there are currently seven former landfill sites still in ownership of Monmouthshire County Council, which were used between 1940's to 1980's. In 1991 and 1992 Council officers undertook gas monitoring and reported that they did not identify any gas offsite within 250m. However given the former landfill use there remains the possibility of offsite leachate and landfill gas generation and in view of this and that the records retained by the Council are not very detailed Environmental Health have taken a precautionary approach and raised them to the A2 from the B category. Currently none of the sites have sensitive receptors built on the landfill site footprint and Environmental Health is not aware of any current issues with these sites.

Further Stages in the Strategy

As mentioned above, the next stage of the existing strategy would be to:

- Undertake desktop studies to produce a conceptual model and further refine the risk assessment of the highest risk sites to attempt to further identify the hazards;
- Undertake a full intrusive site investigation. This would include carrying out a full sampling regime of soil, ground gas, groundwater, and vapour and undertaking a detailed quantitative risk assessment.
- Once completed this investigation would provide confirmation if a "contaminant linkage" exists or not.

A contamination linkage requires:-

- a contaminant – a substance which has the potential to cause significant harm to a receptor;
- a receptor - something that could be adversely affected by a contaminant; and
- a pathway - a route by which a receptor is or might be affected by a contaminant.

All three elements must exist before the land can be considered potentially to be contaminated under Part 2A of EPA 1990.

Once determined as Contaminated Land, a remediation strategy could be produced and work began to clean the site up to make it suitable for its current use. Following remediation a validation scheme would be required to ensure the remediation had the worked.

Contaminated Land Capital Fund

Between 2005 and 2011 the Welsh Government provided Capital Support to Local Authorities for the Intrusive site investigations (which aim to establish the contamination linkage), the remediation strategy and remediation.

Monmouthshire County Council had progressed its inspection Strategy to the point where funding could be applied for to undertake intrusive investigation of its highest risk site, however in April 2011 this Capital Fund was discontinued. This had a major implication for the Council as the 2008 review of the Strategy provided updated timescales to progress the inspection strategy; however these were based on the potential for resources to be obtained by bidding for money from the Capital Fund. Securing this funding would have allowed the Environmental Health Department to progress the inspection strategy by undertaking intrusive site investigation, determining Contaminated Land and then undertaking remediation of high risk contaminated sites, should the Class A person (the original polluter) not be found.

Options for Progressing the Strategy

As a result of the withdrawal of Capital Funding any further progress with the Inspection Strategy now has substantial resource implications for the Council. Without appropriate funding the Environmental Health Department cannot proactively progress the Inspection Strategy. As such a further report was presented to Cabinet in February 2012, to explain this situation, and determine how the Inspection Strategy should be progressed.

It was also noted in the report that the Government were in the process of reviewing their Contaminated Land Statutory Guidance, and as such the recommendations of the report (which were accepted by Cabinet) were to defer progress of the existing inspection strategy until a revised strategy could be developed taking account of the revised Statutory Guidance. The policy of consultation between Environmental Health and Development Control concerning developments on potentially contaminated land was also endorsed by Cabinet to ensure appropriate investigations and if necessary, remediation works, would be undertaken by the developer.

The Statutory Guidance is now available and in addition the results of a study by Welsh Government and the Welsh Contaminated Land Working Group into a review of contaminated land in Wales. This is therefore an appropriate time for Monmouthshire County Council to review the 2002 Contaminated Land Inspection Strategy, and if necessary write a revised strategy.

Revised Statutory Guidance

The Government undertook an Impact Assessment on the simplification and shortening of the Guidance, it was concluded that the original Guidance had major flaws that "undermined the effectiveness of the regime and created considerable regulatory uncertainty". As a result revised Statutory Guidance was issued in April 2012.

In particular, the Guidance failed to adequately explain how a local authority should decide whether land is contaminated. Other areas of concern were that the determination that a site is low risk took too long; that higher-risk sites were not targeted sufficiently; and that some local authorities set the standard for remediation too high, resulting in the under-use of brownfield sites.

The contaminated land regime was therefore causing results that were inconsistent with the Government policy to "ensure brownfield land is developed first [...] reducing the need for development of greenfield land."

The new guidance goes some way to remedy these issues. It clarifies for example that where normal levels of contaminants are found in soil this "should not be considered to cause land to qualify as contaminated land" and that land should be considered no further under the Part 2A regime. This clarification should reduce the unnecessary time spent by local authorities investigating small amounts of contamination and should also "reduce potential blight on land with only normal levels of contamination".

The Guidance sets out a four-category framework for deciding whether land is contaminated, where Category 1 land is the most contaminated and Category 4 land is uncontaminated.

The contaminated land risk assessment/prioritisation software that Environmental Health have, is capable of reclassifying the sites from A-E into the new Category 1-4 system, however to do so would require sampling of sites to determine actual levels of contaminants present (i.e. an intrusive site investigation). If this was undertaken all sites defined as Category 4 could be considered not contaminated. To date the government have produced Category 4 screening Levels (C4SL's) for 6 contaminants. If samples were taken they could be compared to these C4SL's. If levels were below the C4SL's then the site could be considered not contaminated for those 6 contaminants.

Local Authority Inspection Duties

The Local authorities' legal duties under Part 2A remain the same as they were originally written, that is to:-

- Cause its area to be inspected from time to time for the purpose of identifying contaminated land; and
- In performing these functions to act in accordance with statutory guidance.

The Statutory Guidance gives guidance that there are generally two types of inspection:-

- Strategic inspection, for example collecting information to make a broad assessment of land and then identifying priority land for more detailed consideration; and
- Carrying out the detailed inspection of particular land to obtain information on ground conditions and carrying out the risk assessments which support decisions under the Part 2A regime relevant to that land.

Updating the Inspection Strategy

Monmouthshire County Councils' original Contaminated Land Inspection Strategy laid out the strategic approach to carrying out its inspection duty. The council reviewed the Strategy in 2008 and provided updated timescales and a series of required actions to ensure all land in its area had been identified (as far as possible) and prioritised ready for undertaking the detailed inspections.

With the publication of the new Statutory Guidance and the withdrawal of the Capital Funding (which the 2008 review relied upon to progress the inspection strategy into carrying out the detailed inspections) the Strategy should now be reviewed and updated. This is stipulated in the April 2012 Statutory Guidance "Strategies produced in accordance with previous versions of this Guidance should be updated or replaced to reflect this Guidance".

When the Strategy is updated the Statutory Guidance states that the strategy should include:-

- (a) Its aims, objectives and priorities, taking into account the characteristics of its area.
- (b) A description of relevant aspects of its area.
- (c) Its approach to strategic inspection of its area or parts of it.
- (d) Its approach to the prioritisation of detailed inspection and remediation activity.
- (e) How its approach under Part 2A fits with its broader approach to dealing with land contamination. For example, its broader approach may include using the planning system to ensure land is made suitable for use when it is redeveloped; and/or encouraging polluters/owners of land affected by contamination to deal with problems without the need for Part 2A to be used directly; and/or encouraging problematic land to be dealt with as part of wider regeneration work.
- (f) Broadly, how the authority will seek to minimise unnecessary burdens on the taxpayer, businesses and individuals; for example by encouraging voluntary action to deal with land contamination issues as far as it considers reasonable and practicable.

Before the strategy can be updated the costs associated with paragraph (d) above (detailed inspection and remediation activity) need to be considered. Even if a Class A person (original polluter) was identified, and M.C.C. was successful in proving liability and requiring that person to undertake Remediation, the legislation/Statutory Guidance does not make provision for the local authority to recover the potentially high cost of the initial site investigation.

Therefore options need to be considered by Cabinet for their approval of the most appropriate.

Options

Four options are presented below as A-D.

Option A: Keep under review & work within the planning regime.

This is the option that has been followed since the 2012 Cabinet Report where Environmental Health would not progress detailed inspections of the 2,500 sites, unless they are re-developed through the planning regime.

The revised Statutory Guidance places an emphasis on local authorities dealing with land contamination, where ever possible, through the planning regime. In Monmouthshire, Environmental Health work closely with the Planning Authorities (Monmouthshire County Council and Brecon Beacons National Park) to ensure that the contamination legacy of a site is appropriately addressed at the planning stage to make sure the site is fit for the proposed end use. In this way new Contaminated Land sites (requiring action under Part IIa of EPA) are not created and redeveloped sites are investigated and remediated, thereby ensuring public health is safeguarded.

Should a planning application involving the development of a sensitive receptor (e.g. housing, schools etc.) and be located on or near potential contaminated land, the Planning Authority specifically consult with Environmental Health.

The Specialist Environmental Health Officer will then review all available evidence to determine if there is a potential risk for the development and if so recommend planning conditions be attached involving site investigation and (if necessary) remediation and validation. The Environmental Health Officer will then review all submitted site investigations, risk assessments, statistical analysis, laboratory reports, and remediation and validation reports and provide advice on the discharge of conditions or require further work to be undertaken. In this way a more robust system is now in place to prevent development and re-development on land likely to give risk to harm and prevent future Contaminated Land (i.e. land with a source, pathway and receptor linkage).

Since 2012 Environmental Health has consulted on 91 planning applications for developments on or near potential contaminated land, therefore sites are being considered and where appropriate detailed inspections and remediation undertaken (by the developers). However it is possible that by limiting its approach to this the Council could be open to challenge that its "approach to prioritisation of detailed inspection and remediation activity" is not sufficient and that it is not "inspecting from time to time for the purpose of identifying contaminated land" i.e. by proactively undertaking detailed inspections to determine a contaminate linkage.

Option B: Limited Intrusive Site Investigation

Currently one of the 45 High risk sites has been progressed to the third stage of the Strategy and been subjected to a desktop investigation. It was identified that a potential risk does exist, therefore the next step would involve the afore mentioned limited site investigation. This would include site

visits by an Environmental Health Officer and obtaining hand dug soil samples which would be sent to an independent laboratory for analysis.

It would not be possible to undertake a full "detailed inspection" as heavy machinery and specialist equipment is required for deep soil sampling, groundwater monitoring, and to undertake a ground gas/vapour monitoring regime. A detailed inspection is presented as Option C.

Should a contaminant linkage be identified from the hand dug soil samples, further risk assessments would be required to determine if the levels of the contaminants are high enough to satisfy SPOSH (Significant Possibility of Significant Harm). These are known as Detail Quantitative Risk Assessments and require the use of specialised risk assessment software.

Should no contaminants be found, or if it can be shown that SPOSH is not met, and a statistically representative number of samples/monitoring locations were taken/used, the site could be re-risk rated and would be lowered down the prioritisation list. It is unlikely that the site could be considered "not contaminated" however, due to the unavailability of gas, and water sampling and deeper soil samples.

The cost is estimated to be approximately £150 per soil sample analysed to cover the range of potential contaminants associated with the site. The number of samples that would be required could vary depending on how robust the sampling strategy is designed to be. Possible options could range from taking one sample through to designing a strategy that enabled a statistically representative number of samples to be taken.

If the limiting factor is cost a sampling strategy would have to be designed to determine the number and pattern of sampling locations that enabled the least amount of samples to be taken, whilst still providing the required degree of confidence that all hazards have been identified.

As the receptors (houses with gardens) are sensitive and the potential contaminants represent a high hazard, a high degree of confidence is needed in the outcome of the sampling. In addition the nature of the former land use means that the site would probably have heterogeneous contamination; therefore a limited number of samples might not give a true representation of either the type of contamination present or its levels.

While initial sample costs for one limited site investigation may amount to a few thousand pounds, should contamination be identified a full site investigation is likely to be required (See Option C) with costs increasing significantly.

Should this option be progressed, residents would have to be made aware at the outset, thereby potentially causing concern over health and property depreciation/blight. Therefore if begun, it would be vital that a clear route through to full remediation and validation be identified, and funds put in place from the outset.

Option C: Undertake a full detailed site inspection in accordance with BS 10175:2011

BS 10175:2011 is the British Standard and Code of Practice for the investigation of potentially contaminated sites.

When the Capital Fund was available Local Authorities would have been required to fund the cost of Option B themselves and provide the results as evidence within the bidding process to demonstrate risk to health. If successful in the application the fund could then be used to undertake a detailed inspection

A full Site investigation would require installing boreholes and monitoring wells to significant depth and therefore would have to be undertaken by an external company (e.g. contaminated land consultancy). A statistically representative number of samples would be taken from a number of depths at each location and both groundwater and gas/vapour would be monitored.

A Detailed Quantitative Risk Assessment would be produced along with a remediation proposal identifying possible remediation measures. The cost of this is likely to be in the tens of thousands of pounds for one site investigation alone. However a much higher degree of confidence could be placed in the results than from a limited investigation.

Should a contaminate linkage be identified that resulted in the site being Declared Contaminated Land under the legislation, all the properties would be placed on the Public Register and a plan for remediation of the site would be required. This could put a significant financial burden on either the Council or the property owners as well as potentially causing land blight, depreciation of property value and anxiety (and possibly associated health conditions). Typical cost for remediation is

approximately £250,000 per hectare, but is very site specific (i.e. level and type of contamination, accessibility to the site, number of pathways etc.).

Under Part 2A there are generally two classes of person responsible for remediation. Class A is the original polluter and Class B is the current owner. Unfortunately there may be a number of Class A persons if the land has had a number of uses and determining liabilities can become legally complex. In addition it is likely that the original polluter no longer exists as an entity. If the Class B person is a home owner requiring them to remediate could present them with very significant financial burdens. Monmouthshire County Council could choose to take the remediation cost on themselves even if they are not the Class A and/or Class B person.

Undertaking one site investigation and remediation would only address one out of nine Very High (A1) risk sites and thirty six High (A2) Risk sites. Therefore should the resources be found to fully investigate and (if necessary) remediate one site; consideration must be made for how the remaining forty three sites are progressed, but at least some progress would have been made through the inspection strategy.

Option D: Undertake further desktop studies

Further desktop studies can be undertaken for the remaining eight A1 and then the thirty six A2 site to further refine the prioritisation list. This might obtain a better spread of risk over the 45 sites, to ensure that any intrusive investigation undertaken in the future is targeted at the highest risk sites first. It might also allow some of the sites to have their risk rating lowered.

An Environmental Health Officer could progress the desktop studies, however there would be little time to commit to the work, therefore the investigation would be progressed slowly, unless it is determined that the work should take priority over other Environmental Health functions (all of which the council has a legal obligation to undertake). A typical desktop study could be completed in approximately two weeks if undertaken on a full time basis. If fitted in around current workloads it would be unlikely that any more than one study per year could be completed.

Alternatively an additional member of staff to undertake the desk top studies, either full time or part time for quicker progress (i.e. one every two weeks if full time).

Clearly this approach would be contributing to the progression of the Inspection Strategy, however the detailed inspections would not be undertaken. In addition the more evidence available that a site is likely to be causing significant harm or Significant Possibility of Significant Harm (SPOSH), the greater is the weight of responsibility from a public health perspective to further investigate the site. A desktop study, whilst helping improve the knowledge about a site, cannot necessarily prove or disprove harm or SPOSH. As information held about the site is subject to public scrutiny, it is possible that Desktop Studies would increase potential for land blight without being able to provide any firm evidence (i.e. soil/water analysis) to actually confirm if the site is Contaminated or not.

In addition there is an inevitable outcome of completing all high risk desktop studies, in that at some point option B and C will have to be considered again.

Contaminated Land Regime in Wales

Prior to preparing this report for consideration of the above options and revising the Inspection Strategy, it was considered prudent to determine what other local authorities in Wales were doing.

In 2014 a report was commissioned by DEFRA which examined the contaminated land sector in Wales since the withdrawal of the Capital Fund in 2011. In summary the report determined that:-

- Land contamination in Wales is mainly dealt with through planning application (92% of the sites). Around 4% of contaminated sites are dealt with under Part 2A and similarly under voluntary action.
- All local authorities have produced and published their inspection strategy for contaminated land. Eleven local authorities published the most recent version of their strategy pre-2007 and seven published their strategy post 2007.
- The majority of the local authorities (61%) have not changed their priorities within their inspection strategy since it was first drafted. For those that changed their priorities, the main reason invoked was the move towards a greater emphasis via the planning system.
- Seventeen local authorities have established a list of potentially contaminated sites
- By end of December 2013, half of the local authorities reported that they are behind target towards achieving the objectives of their inspection strategy.
- Between 1st April 2001 and 31st December 2013, 788 potentially contaminated sites have had a detailed inspection. The detailed inspections have been funded by central funding (90%) and local authority funding (10%).

- By the end of December 2013, 45 sites had been determined as contaminated land under Part 2A, including 2 designated Special Sites. Of the 43 (non-special) contaminated land sites, local authorities reported that 34 have been completely remediated.
- Twenty-eight (28) sites have been fully remediated by the local authorities and the estimated cost is in the region of £1.9 million. Two Special Sites have been fully remediated at a cost of around £1.2 million.
- Site remediation has been mainly paid for by the Contaminated Land Capital Grants Scheme (74%) prior to its withdrawal, and via other public funding (e.g. local authority funding because no liable party was found).
- No Local Authority has determined a site as Contaminated Land since 1st April 2012