RHONDDA CYNON TAF

Contaminated Land Inspection Strategy

December 2008
(Revised November 2016)

Foreword by Cabinet Member for Prosperity, Wellbeing & Communities

Contaminated Land Inspection Strategy

As we look around us in Rhondda Cynon Taf, we see a landscape rich in industrial history and steeped in potential. In order to fulfil this potential, we need to use our environment effectively and address cases where land is not in a condition to be used productively, freeing up sites for positive economic and social purposes.

Part of this means that we need to deal with any cases of contaminated land so that first and foremost, there are no risks to the health and welfare of our residents and secondly, we reclaim as much of that land as possible so it can support the ongoing regeneration of the County Borough.

Our Environment in Rhondda Cynon Taf is key to our economic prosperity and sense of community. We all have a responsibility to care for our environment both now and for future generations to safeguard health from the risks posed by contaminated land.

As a local authority, we are required to have a strategy for identifying and registering contaminated land and its subsequent remediation. We are committed to fully involving local people in this process and working with communities so that together we establish a cleaner and more productive Rhondda Cynon Taf.

Councillor Joy Rosser
Cabinet Member for Prosperity, Wellbeing & Communities

Rhondda Cynon Taf County Borough Council

Contaminated Land Inspection Strategy

Executive Summary

Contaminated land can affect health, blight areas and preclude redevelopment. The reclamation of derelict and often contaminated industrial sites can therefore be a crucial factor in the regeneration of communities. Rhondda Cynon Taf has had a history of industrial exploitation, which has left a legacy of over 4600 such sites. Many of them are in prime locations and are ripe for redevelopment. The contaminated land regime compliments the Planning and Development Control process and provides a mechanism to release some of the most contaminated sites for beneficial use. Its risk-based approach will ensure that these sites are cleaned up sufficiently to enable them to be safely used for their new purpose. It therefore supports regeneration whilst at the same time, safeguards the health of our community, which is a key corporate objective.

Fully involving communities that may be affected by contaminated land is a top priority and is part of our Community Leadership role. To this end, our goals and objectives for community involvement are:

- Earning trust and credibility through open, transparent and respectful communications
- Helping community members understand what the process involves
- Promoting collaboration between the Council and communities and other agencies
- Providing opportunities for communities to become involved
- Managing and co-ordinating health communication activities with appropriate communities
- Informing and updating communities about the Council's work
- Assisting communities in understanding the possible health impacts of exposure to hazardous substances

This approach has been successfully used by the Agency for Toxic Substances and Disease Registry (ATSDR), an independent federal agency in the United States of America.

The Council's Contaminated Land Inspection Strategy has been designed to achieve the following set of priorities with respect to potentially *contaminated land:*

1. To protect human health and well being
2. To encourage the redevelopment of damaged land/ reuse of brownfield land
3. To encourage voluntary *remediation*
4. To communicate and work effectively with other organisations to protect other *receptors*
5. To engage with local communities (e.g. through the Communities First Partnerships) to find out what their priorities are

6. To ensure compliance with and enforcement of the legislation and statutory guidance

In 1997 a Contaminated Land Officer was appointed to identify all the land in Rhondda Cynon Taf having a previous use that might lead to it being contaminated. This task has been completed and over 4600 sites identified. These have been plotted on a computerised mapping system (GIS) with key information recorded on a purpose-built computerised data management system (GeoEnviron). The sites have been prioritised for further investigation, based on the risk that they could pose. This has been established through the identification of the current and past land uses with further refinement on the basis of the proximity of controlled waters. These more detailed investigations will seek to establish whether the sites actually meet the statutory definition of *contaminated land*. Sites that are determined to be *contaminated land* will, at the appropriate time, be logged on a Public Register. This will be maintained by the Senior Environmental Control Officer and will be available for viewing at the appropriate Council offices.

The legislation specifies a list of categories of *contaminated land*, which must be classified as *Special Sites.* Local Authorities must hand these over to Natural Resources Wales (NRW) as the enforcing authority. In these cases NRW will take the lead role in the investigation, although the Council will retain responsibility for deciding whether to determine the sites *contaminated land* and will continue to champion our communities as part of our Community Leadership role. This partnership approach has already been tried and tested through the identification and designation of a *special site* in the Borough.

As the *enforcing authority* for the remaining *contaminated land* sites, the Council will be required to secure their *remediation*. *Contaminated land* for which the Council has responsibility or liability will be subject to the same processes as all other land covered by Part 2A. It is recognised that some areas of *contaminated land* may require immediate attention. These sites will be dealt with as soon as they are discovered to ensure that sensitive receptors are not compromised by delay arising from our administrative procedures.

The Council will liaise fully with all other relevant bodies (particularly NRW) to ensure that decisions on *contaminated land*, which affect the health of our community, are made in the light of the fullest information and the best advice.

The law covering these duties is contained in Part II of the Environmental Protection Act 1990 and was amended by The Environment Act 1995 to include provisions requiring Local Authorities to identify *contaminated land* within their boundaries and to keep a register of all such sites. The amendment also requires Local Authorities to secure the remediation of these sites. These requirements are now set out in Part 2A of the Environmental Protection Act 1990. They came into force in Wales in July 2001 through the Contaminated Land (Wales) Regulations 2001.

The Contaminated Land regime was supported by comprehensive statutory guidance issued by the National Assembly for Wales in November 2001. The guidance requires Local Authorities to prepare a strategy detailing how they will take a rational, ordered and efficient approach to this inspection process. This document

is Rhondda Cynon Taf County Borough Council's Contaminated Land Inspection Strategy (CLIS). It has been written in accordance with the technical advice issued by the National Assembly for Wales.

The draft CLIS was distributed to interested parties for consultation with a request that responses were made by 4th September 2003. Rhondda Cynon Taf County Borough Council gratefully acknowledges the constructive contributions made by respondents. The final document was published in January 2004 and addressed all the responses received as a result of the consultation process.

In 2006 Part 2A of the Environmental Protection Act was extended to include radioactive contaminated land (RCL). It only applies in circumstances where radioactivity is the result of past practice or work activity, or the after-effects of a radiological emergency. Whilst the Council has a statutory duty to inspect land for radioactivity, there must be reasonable grounds for doing so. These are defined by statutory guidance. The CLIS was reviewed and updated in 2008 to reflect these changes.

In 2012, following a public consultation exercise carried out between December 2010 and March 2011, the Welsh Government issued new Statutory Guidance and Regulations. The CLIS has been updated to take account of the 2012 Statutory Guidance, the new Council Policy Context for the Strategy and the progress made since the last revision in 2008.

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Chapter 1 Introduction

Part 2A of the Environmental Protection Act 1990 (Part 2A) - introduced by section 57 of the Environment Act 1995 - provides a new regulatory regime for the identification and remediation of *contaminated land*. In addition to the requirements contained in the primary legislation, operation of the regime is subject to secondary legislation - Regulations, and Statutory Guidance.
The National Assembly for Wales has been responsible for the publication of the Welsh Regulations and Statutory Guidance. The Contaminated Land (Wales) Regulations came into force in June 2001 with the Statutory Guidance (Remediation of Contaminated Land) following in November 2001.
In December 2006 Part 2A was extended to cover radioactive contaminated land (RCL) by the Radioactive Contaminated Land (Modification of Enactments) (Wales) Regulations 2006. This resulted in the Statutory Guidance and Regulations being revised and reissued by the National Assembly for Wales (Part 2A Statutory Guidance on Contaminated Land - December 2006, Contaminated Land (Wales) Regulations 2006- National Assembly for Wales).
In 2012, following a consultation exercise undertaken by DEFRA and WAG, the existing statutory guidance was revised and reissued. The resulting Welsh Government Guidance Document; Contaminated Land Statutory Guidance -2012 sought to produce a clearer, simpler regime consistent with the principles of good regulation. It focussed on the definition of "*contaminated land*" and commenced section 86 of the Water Act 2003 – amending the definition of *contaminated land* as it relates to *significant pollution of controlled water*. The guidance document does not cover radioactively contaminated land which is provided separately under RCL Statutory Guidance (April 2012). The Contaminated Land (Wales) Regulations 2012 amended the 2007 Regulations.

1.1 Council Policy

The Contaminated Land Inspection Strategy (CLIS) was prepared within the broad context of Rhondda Cynon Taf County Borough Council's corporate aims and objectives as set out in the Community Plan and this review has ensured it remains relevant to the current Policy Context.

1.1.2 Single Integrated Plan

To secure continuous improvement in the delivery of public services, the Council is required to carry out their responsibilities with reference to clear and over-arching corporate priorities for future development. The Council recognises that there were unlikely to be sufficient resources available, to do all that we would like. Difficult choices were made to establish priorities for action, based on research and consultation about what would provide the greatest value for local people.

Consultation led to the development of the first Community Plan (April 2000) where the shared vision for the future development of The Valleys was set out, enabling resources to be directed towards tackling the problems faced. A new statutory framework resulted in the operation of a Local Service Board with the aim of facilitating multi-agency working towards common objectives. The Local Authority,

as a member of Rhondda Cynon Taf Local Service Board has assisted in the production of a Single Integrated Plan – Delivering Change.

The shared vision of the Local Service Board members is that all people in Rhondda Cynon Taf are safe, healthy and prosperous.

The Local Service Board assessed the needs across our communities and identified key priorities which need to be addressed which will have the biggest impact on achieving this goal. The strongest link the CLIS has to these priorities is through Prosperity via its contribution towards the development of sustainable communities. These are seen as places where people want to live, with pleasant homes and an environment that meets the needs of existing and future residents, including children. It provides a high quality of life and makes the best use of natural resources.

In 2016, the Local Service Board was replaced by a Public Service Board for the Cwm Taf Region. Rhondda Cynon Taf also launched its new Corporate Plan for 2016-2021- "The Way Ahead". One of the key priorities within this plan remains the promotion of a clean and attractive environment for all and the promotion of a prosperous economy; objectives directly linked to the CLIS.

Work has already been done towards this with the Council adopting a Local Development Plan in 2011. This informs and complements 'The Way Ahead' and the Single Integrated Plan, containing details of how we will balance social, economic and environmental issues to meet the needs of those people living, working and visiting Rhondda Cynon Taf. The plan sets out how we will use land for new housing, employment and retail sites with sustainability as its central principle.

1.1.3 The Well-being of Future Generations Act 2015

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural well-being of Wales. It will make the public bodies listed in the Act think more about the long-term, work better together and with communities, as well as looking to prevent problems and take a more joined-up approach. The act sets out seven well being goals which reflect the shared vision for Wales. The key goals associated with the CLIS are a prosperous and healthy Wales, by regenerating communities while safeguarding public health and the environment.

1.1.4 Local Development Plan 2011

The LDP provides a policy framework that integrates and balances the social, economic and environmental issues in order to meet the needs of those people living, working and visiting Rhondda Cynon Taf. The fundamental principles of achieving sustainable development will underpin all land use decisions. The LDP seeks to build a policy framework that protects important elements of the built, natural and cultural environment, improves town centres, provides new sustainable housing, employment and community facilities in appropriate locations, promotes integrated transport and encourage opportunities for sustainable regeneration. The LDP identifies strategic sites in order to promote sustainable growth within Rhondda Cynon Taf. The sites are allocated for the development of a mixture of large-scale residential, employment, retail and recreational purposes. The location and scale of

these sites presents an opportunity for significant new development to take place across the County Borough. Over the plan period the combination of development on these sites will result in between 5,000 – 5,450 new dwellings, 63 hectares of employment land, 23,400m2 net of new retail floor space and the provision of a significant amount of new open / green space. Policy AW 10 -Environmental Protection and Public Health states as follows:
Development proposals will not be permitted where they would cause or result in a risk of unacceptable harm to health and / or local amenity because of air pollution; noise pollution; light pollution; contamination; landfill gas; land instability; water pollution; flooding, or any other identified risk to the environment, local amenity and public health or safety unless it can be demonstrated that measures can be taken to overcome any significant adverse risk to public health, the environment and / or impact upon local amenity.

The CLIS allows potential contamination issues to be identified at an early stage during the development process thus ensuring that these issues are given adequate thought and resources.

1.1.5 Strategic Vision of the Public Health and Protection Service

The Strategic Vision of the Public Health and Protection Service is:

> *"To provide services that protect and improve health, promote safety and wellbeing"*

The remediation of contaminated land clearly supports this mission. The production and implementation of the CLIS is therefore a critical part of the Service's Business Plan, which will be delivered by the Pollution and Public Health Team.

1.1.6 Service Objectives

The success of this Vision will be achieved through service objectives, many of which have had a direct impact upon the way in which the CLIS has been designed. For example:

The protection of residents from the effects of poor air quality, contaminated land, public and statutory nuisance, environmental crime and the provision of effective pest control and animal control services.

1.2 Regulatory Context - The Contaminated Land (Wales) Regulations 2012.

Regulatory controls now exist over potentially polluting processes that should prevent new contaminated land sites being created. Part 2A is intended to deal with the legacy of *contaminated land* that we have inherited from past growth and development. Certain aspects of Part 2A are set out in the Welsh Statutory Guidance issued by the Welsh Government. Together with the Contaminated Land (Wales) Regulations they make important provisions to help give full effect to the regime providing a basis for enforcing authorities to apply the regime fairly.

Under Part 2A, the Council is required to undertake the inspection of land in its area in order to identify *contaminated land*. A strategic approach is required to identify

land that merits a more detailed individual inspection. This document outlines the rational, ordered and efficient approach that the Council intends to take.

1.2.1 The Role of the Local Authority

Under Part 2A the Council must inspect its area from time to time to

- identify *contaminated land*; and
- in the case of RCL:-
- ensure inspection of particular land for radioactive contamination.
- have regard to NRW advice on the manner of documentary review and visual inspection where s108 powers not needed.
- Seek to make arrangements with NRW for documentary review and visual inspection if s108 powers are needed.
- Always seek to make arrangements with NRW for intrusive investigation of potential RCL sites
- decide whether any of this land should be designated as a *special site*.

The Council is the *enforcing authority* for all *contaminated land* unless it meets the definition of a "*special site*" in which case the NRW is the *enforcing authority*.

1.2.2 The Role of NRW.

NRW will,

- Act as the *enforcing authority* for areas of *contaminated land* which are designated as "*special sites"* as defined by Regulations 2, 3 and Schedule 1 of the Contaminated Land (Regulations) Wales 2012.
- They will also provide site-specific advice to local authorities when requested, especially in the respect of *pollution to controlled waters*.
- Help local authorities inspect potential RCL.
- Act as the *enforcing authority* for the remediation of RCL
- Periodically prepare the State of Contaminated Land Report to assess the effectiveness of Part 2A .

1.2.3 The Role of the Food Standards Agency

The Food Standards Agency are available to advise on the food safety implications for consumers where food crops are grown or food animals are reared in areas affected by contamination. This includes food produced in domestic gardens and allotments and food collected from the wild as well as commercially produced food.

1.2.4 Defining Contaminated Land

The Council has the sole responsibility for determining whether any land in Rhondda Cynon Taf is *contaminated land*.

"Contaminated land" is defined by Section 78A(2) of Part 2A as any land which appears by the Local Authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that -

a) *significant harm* is being caused or
b) there is a *significant possibility* of such harm being caused, or
c) *significant pollution of controlled waters* is being caused, or
d) there *is a significant possibility of such pollution being caused.*

In determining whether any land appears to meet this definition, the Council must follow the guidance issued by the Welsh Government, *Contaminated Land Statutory Guidance* (2012), Sections 3 and 4.

1.2.5 Risk Assessment

The Contaminated Land Regime introduced a risk-based approach to dealing with contaminated land. The two steps in identifying *contaminated land* reflect this approach. Firstly the Council must satisfy itself that

- a "*contaminant linkage"* exists on the land and secondly that this,
- is resulting in *significant harm* , or the *significant possibility of significant harm* , or is resulting in the *significant pollution*, or likely to result in the *significant pollution of controlled waters*.

A "*contaminant linkage"* requires three elements, a "*contaminant* "; a "*pathway*"; and a "*receptor*".

- A *contaminant* is a substance that is in on or under the land and which has the potential to cause *harm* or to cause *pollution of controlled waters*.
- A *pathway* is one or more routes or means, by or through which, a *receptor* is being exposed to, or affected by a *contaminant*, or could be exposed or affected.
- A *receptor* is something that could be adversely affected by a contaminant, for example a person, an organism, an ecosystem, property or controlled waters.

The Council can only have regard for *receptor*s that are likely to be present given the current use of the land or other land which might be affected. Current use may also be taken to include uses for which current planning permission exists.
A *significant contaminant linkage* means a *contaminant linkage* which gives rise to a level of risk sufficient to justify a piece of land being determined as *contaminated land.*
Part 2A is not intended to apply to land with levels of contaminants in soil that are commonplace or widespread throughout Wales or parts of it. If land is found to contain normal or close to normal levels of contamination it should not be considered further under the regime.
Local authorities may use *generic assessment criteria* (GAC) and other tools to inform certain decisions under Part 2A. GAC relating to human health risk assessments represent cautious estimates of levels of contaminants in soils at which there is considered to be no risk to health or, at the most, a minimal risk to health.

1.2.6 Significant Harm to Human Health.

Significant harm to human health includes death; life threatening diseases (e.g. cancers); other diseases likely to have serious impacts on health; serious injury; birth defects; and impairment of reproductive functions. Other health effects may be considered to constitute significant harm but only if treating the land as contaminated land is in accordance with the broad objectives of the regime.
Guidance is provided to local authorities in relation to whether a *significant possibility of significant harm* (SPOSH) to human health exists. Four categories are identified (paragraphs 4.19-4.29). Categories 1 and 2 encompass land where

SPOSH exists and is capable of being determined as contaminated land and Categories 3 and 4 land not capable of being determined on such grounds.

1.2.7 Significant Harm to Non-human Receptors

The local authority can only regard receptors described in Table 1 and 2 of the Statutory Guidance (see Appendix 1 and 2) as being relevant for the purpose of Part 2A. The tables also specify what constitutes *significant harm* and circumstances when the possibility of it occurring is significant.

1.2.8 Significant Pollution of *Controlled Waters*

The *pollution of controlled waters* is defined by Section 78A(9) of Part 2A as: the entry of any poisonous, noxious or polluting matter or any solid waste matter into the waters. Part 2A requires the entry of these substances to be likely or continuing. In deciding whether pollution of *controlled waters* is significant the local authority is required to focus on pollution which may be harmful to human health or the quality of the aquatic ecosystem (or terrestrial ecosystems dependant on the latter) or pollution which may damage material property or interfere with amenities or legitimate uses of the environment. Paragraph 4.38 sets out the types of pollution to controlled waters which are to be considered as significant. The local authority is also required to assess whether there is a significant possibility of this occurring. Paragraph 4.46 provides further guidance in terms of the four categories (1-4) which such land could fall under.

1.2.9 Determination

The Council has sole responsibility for determining whether land is *contaminated land.* When making this decision it may rely on advice provided by NRW (in the case of the significant pollution of controlled waters) or an appropriate practitioner appointed for that purpose. In the case of land which would meet the definition of a *special site* the Council must consult with NRW before deciding whether to determine the land and should take NRW's views into full consideration. The Council may postpone determination if the land owner or some other person undertakes to deal with the problem and remediate to an appropriate standard without determination.

The Council should prepare a written record of any determination which should include a risk summary and a summary of how the relevant requirements of the Guidance have been satisfied.

1.2.10 Remediation

Once land has been determined as contaminated land the *enforcing authority*; that is NRW in the case of *Special Sites* (including RCL) and the Local Authority in every other case must consider how it should be remediated and where appropriate, issue a *remediation notice* requiring this. The local authority should not serve such a notice if it is satisfied that appropriate action is being taken without one. In specifying what remediation is required the local authority must consider cost and the reasonableness of the remediation

1.3 Development of the CLIS

1.3.1 Requirements of a Strategic Approach

The Council is required to take a strategic approach to its inspection duty. Paragraph 2.3 of the Welsh Statutory Guidance states that this should be:
rational, ordered and efficient, and reflect local circumstances. There is also a requirement for strategies produced in accordance with previous versions of the Guidance to be updated to reflect the new Statutory Guidance (2012). The strategy should be reviewed at least every five years to ensure it remains up to date.

1.3.2 Overall Approach since 1997

Pollution Control Team of the Public Health and Protection Service within the Environmental Services Group (now within Community and Children's Services Group) was given the responsibility of preparing and implementing the CLIS. In 1997 the full-time post of Contaminated Land Officer was created to specifically fulfil the Council's statutory obligations. Whilst the regime took some time to come into force in Wales, the requirements that it would place on the Council were anticipated and a great deal of essential preparatory work was carried out in advance.

The Contaminated Land Officer, overseen by the Pollution Control Manager, prepared the first draft CLIS for consultation in 2004. As part of the internal consultation process, the document was available to view on the Local Authority's website, and was also presented to Members at Cabinet. In accordance with the Statutory Guidance at that time, external consultation was undertaken with comment being invited on the draft document from formal and informal consultees.

Once the consultation period was over, the Council formally adopted and published the CLIS. A copy was sent to the NRW via their Area Contaminated Land Officer.

1.3.3 Internal Team Responsibility

The current departmental structure is set out in Chapter 5.

The Senior Contaminated Land Officer (now the Senior Environmental Control Officer) was responsible for drafting the CLIS, with the Pollution Control Manager (now the Pollution and Public Health Manager) ensuring that time scales were met and that the broader Council policies were reflected.

The Pollution Control Team is responsible for:

- implementing the CLIS following its adoption and publication,
- providing information to developers and Development Control when potentially *contaminated land* is being considered for redevelopment and/or is the subject of a planning application,
- reviewing and appraising site investigation reports and proposed *remediation* schemes,
- answering requests for information from the public or other interested parties,
- receiving and dealing with complaints of land contamination, and
- acting as an initial point of contact for *contaminated land* issues.

1.3.4 Internal Liaison

The process of developing and implementing the CLIS required liaison with other departments. Due to the far-reaching implications of *contaminated land* it is expected that at some time several departments within the Council will have cause to obtain or exchange information on the subject. This will occur to varying degrees but it is anticipated that the majority of contact will be with the following:

- Development Control
- Forward Planning
- Land Reclamation
- Corporate Estates
- Countryside
- Legal and Democratic Services
- Development and Regeneration (Area Regeneration Partnerships, Development Planning and Business Support)

1.3.5 Statutory Consultation

Welsh Statutory Guidance requires the Council to consult with the NRW and other appropriate public bodies (e.g. CADW, Public Health Wales, Welsh Government, and Food Standards Agency). It is also recognised that consultation with these organisations will be important at several stages in the Part 2A process:

- in the process of determining whether particular areas of land are *contaminated* on the basis of *significant contaminant linkages* affecting *receptor*s for which they have particular expertise,
- in providing information on the location of recognised *receptor*s,
- conferring any information to the Council on existing land contamination already known to them and,
- in considering what *remediation* is required at specific sites in their remit.

Formal contact has therefore been made and contact details are contained in Appendix 4.

1.3.6 Consultation with Others

The Council consulted on a wider scale with members of the public, businesses and other interested parties. Following the preparation of the draft CLIS, the Local Authority's Press Officer was invited to issue a press statement. This informed all interested parties of the document's availability at key public buildings and on the Local Authority's website (www.rhondda-cynon-taff-gov.uk). Comment on the draft CLIS was invited prior to its adoption and publication. All comments received on or before 4th September 2003 were considered prior to the preparation of the final document.

1.4 Objectives of the CLIS Document

The effective implementation of the *Contaminated Land Regime* in Wales is central to the economic regeneration and environmental improvement of the region. Each Local Authority must play its part in this national programme. To that end Rhondda Cynon Taf County Borough Council aims to:

- meet the statutory requirement to produce a CLIS for its area;

- demonstrate how it meets the requirement for a strategic approach to its inspection duties as outlined in the Welsh Statutory Guidance;
- inform all stakeholders of its intentions in the execution of its statutory duties under Part 2A, and
- provide information to the NRW for its report *on contaminated land*.
- Continue to develop a proactive and risk based approach

Chapter 2 Characteristics of Rhondda Cynon Taf

2.1 Rhondda Cynon Taf County Borough Council

Local Government Reorganisation formed Rhondda Cynon Taf County Borough Council on 1st April 1996. Covering a total area of approximately 44,000 hectares the Council incorporates the former Cynon Valley Borough Council, Taff Ely Borough Council and Rhondda Borough Council and a substantial part of Mid Glamorgan County Council.

2.2 Geographical Location

The Council is situated in South Wales to the north-west of Cardiff with the M4 running close to its southern boundary. In the north it borders with the Brecon Beacons National Park. Figure 1 shows the Council's geographical relationship with its neighbouring authorities.

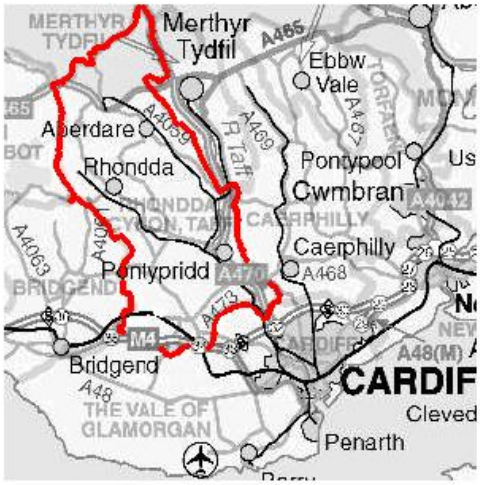


Figure 1, Rhondda Cynon Taf Location Map

2.3 Background Information

The Council's name is taken from the valleys of three rivers, which together with the rivers Ely and Clun dominate the area in both geographical and demographical terms. The topography of the area is influenced greatly by its geology and this is discussed in more detail in section 2.4. Situated within the South Wales Coalfield the topography is that of an undulating plateau, its strong escarpment broken by deeply incised valleys. The rivers cutting through the escarpment follow courses that bear little relationship to the geological outcrops but were important for the development of the coalfield since coal was worked wherever it outcropped.

Until the mid 17th century the Welsh Valleys were unspoilt rural areas and it was not until the discovery and exploitation of steam coal reserves on a commercial scale in 1860's that intensive development began. Rapid urbanisation began in the late 18th and early 19th centuries and gave rise to settlements along the valley floors within the coalfield. Space was limited in the valleys and the coal mining communities that developed were built up and heavily congested. Much of the current housing stock consists of the terraced properties constructed at that time. Extensive mining of the coal resources in the area has also produced spoil heaps that spill over fields and mountain slopes. Since they often support little vegetation and are associated with instability and contamination they present their own challenges when returning this land to beneficial use.

Today's total population of around 232,000 is still concentrated in these small towns and villages close to the rivers, industry and employment. In contrast, the upland areas supported little development and are almost entirely given over to farming, especially sheep farming, since the Pennant Sandstones found here weather to form poor thin acidic soils.

2.4 Broad Geological Characteristics

The geology of the South Wales area is summarised in Figure 2. This map shows the area to be dominated by Upper Palaeozoic rocks, i.e. the Devonian and the Carboniferous Series. These rocks have been subjected to the effects of subsequent plate tectonic movements (i.e. movements of the earth's crust) resulting in their structural deformation. An important consequence of this was the formation of the basin of the South Wales Coalfield. The basin is sharply delineated by the differential erosion of hard and soft rocks. Grits and conglomerates of the Upper Old Red Sandstone (ORS) are tough and resistant and they form the summits in the north of the Borough. Within this escarpment are the parallel ridges formed by the Carboniferous Limestone and Millstone Grit. These dip down below the lower lying softer shales of the Lower and Middle Coal Measures. These measures in turn dip below the thick Pennant Sandstone, which are resistant to erosion and form a strong escarpment.

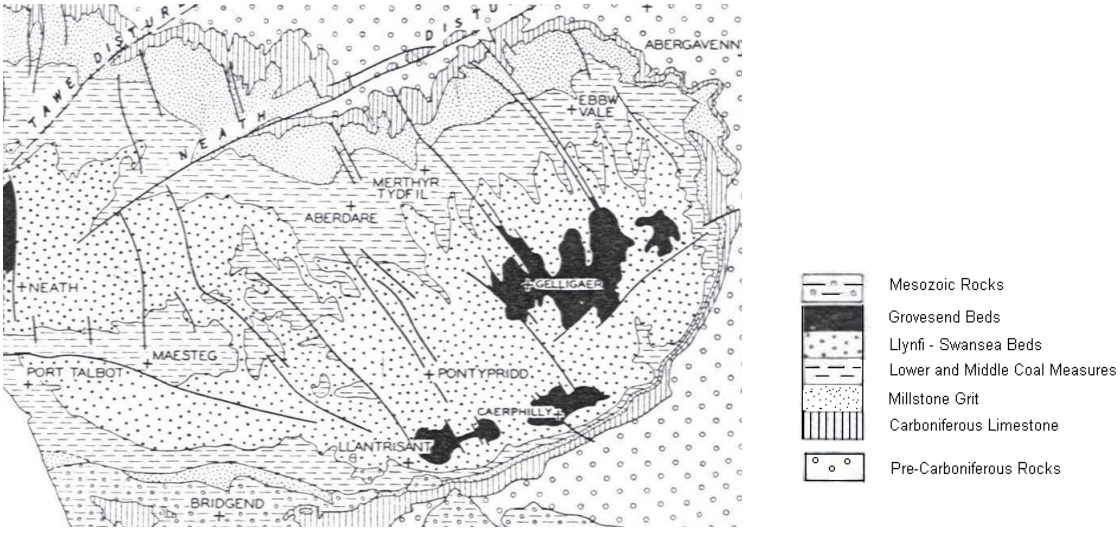


Figure 2. The Geology of the South Wales Coalfield

2.4.1 The Upper Old Red Sandstone

The older rocks of the Devonian Series can be seen towards the edge of the basin; these belong to and consist mainly of the Quartz Conglomerate Group. These are red and brown sandstones, quartzites and coarse conglomerates as seen in the south of the borough around Miskin.

2.4.2 The Carboniferous Limestones

The Lower Carboniferous (Dinantian) rocks consisting of shales and limestones are seen again outcropping at the edges of the coalfield. The limestones have been extensively quarried throughout the area initially as a local building material and for lime and then for iron and steel production and the aggregate industry. Mineralization with Iron (and Lead to a lesser degree) has occurred within the limestone. Iron ores (mainly in the form of Haematite) have been worked around Miskin/Pontyclun and Llanharry. Small-scale extraction of these ores occurred in the 1800s as opencast cropworkings and then as underground mine working. Limestone in the region between Pontyclun and Risca in Gwent has also been exploited.
Near surface solution features can lead to problems with ground stability especially where percolating surface water washes out softer overlying deposits.

2.4.3 Millstone Grit

The Upper Carboniferous is represented by Millstone Grit (Namurian) and the Coal Measures (Westphalian).
Millstone Grit is a varied and variable group of sandstones and shales. It often exhibits cyclical sedimentation starting with a thin coal seam of no economic importance then marine shales followed by sandy shales and siltstones moving to coarser grained grits and quartz conglomerates. The coarser rocks such as quartzite form hard bands strongly resistant to weathering and give rise to escarpments surrounding the coalfield.

2.4.4 The Coal Measures

In South Wales these were deposited cyclically and are similar to the Millstone Grit series. The main difference is that the former contains few and unworkable coal seams and the Coal Measures contain few marine bands. The recurrent coal seams

were formed as thick beds of waterlogged peaty humus in swamps and marshes supporting luxuriant vegetation, through which rivers meandered. The sequence starts with a coal seam formed at or very near water level as a thick dense peat followed by a fine-grained shale or impure limestone of marine conditions moving to sandstones and grits of non-marine nature. The end of the cycle is marked by fine-grained muds deposited in shallow-water, which have been converted to seatearths with rootlet beds by the growth of forests on top of them and then the development of the next coal seam above. This sequence is not always complete and the components are of variable thickness.
The Westphalian is divided into the Lower and Middle Coal Measures and the Upper Coal Measures (Pennant Measures). The coal seams account for less than 2% of the Coal Measures yet they are economically the most important. The coals can be divided into three main types that grade into each other.

- Bituminous Coals, these are soft and friable with a high proportion of volatile matter (20 to 40%). They are good for house, gas, and cooking coals whose carbon contents range from 84- 91%.
- Anthracite, this is a hard stone coal with a metallic lustre yielding a low proportion of volatile matter (3 to 8%) and low hydrogen content. It burns at high temperatures without yellow flame or smoke, and is unsuitable for manufacture of coke.
- Steam Coals their composition and characteristics are intermediate between bituminous coals and anthracite.

In South Wales, the coals lower in the sequence at any one locality tend to be more anthracitic with anthracites being rare in the Upper Coal Measures. Also, any one coal seam tends to become more anthracitic as it is followed towards the north, northwest and west. It can be seen therefore that bituminous coals are mainly found in the south and east outcrops, the steam coals in the central part between the Taff and the Neath (particularly in the Rhondda) valleys, and anthracites along the north crop.

Iron ore is found associated with the Coal Measures. At one time the ore formed the principal source of industrial iron in South Wales, but none is now worked. Ironstone was extracted in the Cynon Valley with coal being used as a fuel for the smelting process. As other more economically viable sources of Iron were found, coal production eventually took over and became the main extractive material.

The rocks of the Upper Palaeozoic have been subjected to earth movements resulting in folding and fracturing; the development of structural features governing the outcrop of the rocks and consequently the location of mines and their workforce, the mining communities.

2.4.5 Triassic

These rocks are limited in the County Borough. They were deposited in the south along the escarpment of the Palaeozoic rocks and are better developed in the Vale of Glamorgan. Inland from the Vale of Glamorgan the Trias oversteps the Lower and Middle Coal Measures almost onto the Upper Coal Measures near to Llantrisant. It is formed from the weathering of these older rocks and belongs to the Mercia Mudstone Group**.**

2.4.6 Recent Deposits.

Approximately 10,000 years ago the area underwent a period of glaciation. Glaciers forming in the upland areas modified the topography to that seen today through erosion and transported material down through channels already existent in the topography, for example the river valleys. This resulted in the deposition of boulder clay, sand and gravel over significant tracts of land. Sand, gravel and alluvium continue to be deposited in the river valleys with hill peat forming on higher ground.

2.5 Hydrogeological Characteristics

Groundwater is utilised throughout the Welsh region ranging from small private abstractions to major industrial and potable supplies. Rocks can be divided into aquifers, which allow the movement of water through them and provide a source of groundwater, and non-aquifers (aquicludes), which do not. Groundwater is an important resource and needs to be protected from pollution and contamination. It is therefore necessary to have an understanding of the Geology of the area and an appreciation of the classification of rock types in terms of aquifers and non-aquifers. Overlying soils may afford some protection to groundwater, Groundwater Vulnerability maps produced by the British Geological Survey assist in the general *risk assessment* process.

2.5.1 Primary Aquifers/Principal Aquifers

The Lower Carboniferous Limestone is the only primary aquifer of the area. It should be noted that the Welsh Statutory Guidance requires that sites causing contamination of groundwater within this strata should be investigated as a *Special Site*. Although limestones have poor intergranular permeability, movement of water occurs through the well-developed fractures and fissures within the rock. Cavities have developed in the limestone due to preferential solution (karst); some of these extend to the surface (swallow holes) and allow rapid recharge of the groundwater from surface water. Due to factors relating to the development of the fissure system this aquifer is very vulnerable to point source pollution events. Springs often emerge at its boundary with other less permeable rocks, and are used together with wells and boreholes as a source of private drinking water.

2.5.2 Secondary Aquifers

Secondary aquifers include a wide range of rock layers or drift deposits with differing permeability. They are subdivided into Secondary A and Secondary B. The former can support water supplies at a local level and can contribute to the base flow of rivers. These were formerly classed as minor aquifers.

Secondary B aquifers are lower permeability horizons which may store limited amounts of groundwater due to fissures, thin permeable horizons and weathering. These were generally the water bearing parts of non-aquifers.

- The Old Red Sandstone is a secondary aquifer. The sandstones are generally hard with groundwater movement occurring through fissures. Vertical flow is limited by the presence of clays (marls) within the sequence that leads to springs forming.
- Millstone Grit exhibits cycles of deposition from coals, shale, sandstones, to seatearths. Water movement in the well-cemented sandstones is through fissures. Springs occur within the Millstone Grit at junctions between the sandstones and underlying less permeable shales. Where Millstone Grit

overlies Carboniferous Limestone it can act as a source for its groundwater recharge.

- Carboniferous Coal Measures are also secondary aquifers and are used for water resource purposes. Movement is through the system of fissures and the network of mining features. Permeable sandstone horizons also facilitate water movement whilst shales tend to impede it.
- Lower and Middle Coal Measures consist mainly of shales with minor sandstones and coal seams.
- Upper Coal Measures (Pennant) have hard dense sandstone horizons that contain large amounts of groundwater due to their well developed jointing and fissure system, separated by shales, mudstones and seatearths with much lower permeability.
- Recent Sands and Gravels including glacial, fluvio-glacial, plateau gravels and river terrace deposits are usually superficial and variable in nature. Due to their unconsolidated nature they have high intergranular permeability and can be important for supplying local requirements. Silt and clay is also found within these deposits and these act as non-aquifers preventing the flow of groundwater. The waters contained within are often in hydraulic continuity with surface waters and their proximity to the surface make them very vulnerable to pollution.

2.5.3 Unproductive Strata

These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

2.6 History of Economic Development

The raw materials for the industrialisation of the area were the iron, coal, limestone deposits and a plentiful water supply. Development occurred close to these resources and so a link is seen with the geology of the area.

2.6.1 Iron

It was in the latter half of the 18th century that the proximity of iron ore, coal, limestone and a plentiful water supply was exploited by ironmasters. Hirwaun and Aberdare saw the development of ironworks processing the ironstone clay bands within the coal measures. The pig iron produced required transporting from the valleys to the coastal ports and this stimulated the development of the canal system. Eventually railways took over as the main mode of transport from the heavily congested canals. This coincided with a reduction in the amount of iron and an increase in the amount of coal being exported from the valleys.

The height of the South Wales iron production was in 1857, thereafter the industry declined. By the 1860's, iron production had tailed-off as the demand for steel increased. The limited resources of some of the ironworks prevented their conversion to steel production and led to their eventual closure. Hirwaun closed in 1859 and other local ironworks soon followed. The near-surface and shallow local ironstone reserves were depleted and it was uneconomical to exploit the deeper reserves. Cheaper European ores having higher iron content were more suited to the new production methods and were used in preference. Local ore extraction and iron production ceased but fortunately for the local workforce the importance of the

coal reserves was realised and coal production increased as demand from the domestic, industrial and transport sector increased.

Iron ore of a different type was extracted at the Llanharry site in the form of Haematite and limonite and continued to supply steel works in Cardiff.

2.6.2 Coal

Coal as a source of power and as a raw material for other industries was a major factor in the economic development of the region. Initially coal was worked in patches where it lay close to the surface for the process of Iron production (in the north). Mining techniques improved and the deeper steam coals situated in the centre of the coalfield were exploited. The demand for these grew worldwide and huge quantities were moved by rail from the Valleys to the docks. The output of coal from South Wales quadrupled between 1860 and 1900 whilst the total UK output less than trebled showing the importance of the mining effort here.

In the latter half of the 19th century industrial communities quickly developed around the newly opened levels and pits such as Maerdy, Ferndale, Tylorstown, Treherbert, Treorchy and Tonypandy of the Rhondda. This is the largest and best-known mining community and saw an increase in population from less than 1000 in 1851 to 152,000 in 1911. Coal was mined in all of the valleys, and although perhaps not as large, the mining communities in the Cynon and Taff valleys also resulted in the creation of many villages and towns.

Whilst in the Valleys coal mining resulted in deforestation, pollution of rivers and a huge increase in the population, Cardiff became the largest coal exporting port in the world. The demand for coal was so great that additional docks were also built at Barry, Penarth, Swansea, Port Talbot and Newport.

2.6.3 Coke works and Coal Gasification Plants

The destructive distillation of coal to produce coke, water-soluble components (ammoniacal liquor) and tars, occurred at coke works throughout the area. Coke was used as a fuel for the steam engines of the railways and the ironwork furnaces; often it was produced close to the pits where the coal was extracted. Coal Gasification plants used for the production of town gas are found within the County Borough. These sites are commonly associated with ground and groundwater contamination. British Gas and their successors have implemented a rolling programme for their investigation and *remediation*. It should be noted that local authorities also acquired some gas works sites for redevelopment.

2.6.4 Brick Making

Clay is closely associated with coal. Some of the local clays had the properties of fire clays and were used to make refractory bricks suitable for use in furnaces and flues. In addition they were used for colliery walling and house building. In 1854 it was noted that there were five brick manufacturers between Pontypridd and Dinas. Brickworks also occurred as appendages to collieries in other areas.

2.6.5 Special Areas

Following the closure of coalmines at various stages and high unemployment especially in the 1930's, efforts were made to attract new businesses and provide

the redundant workforce with employment close to their homes. Under the Special Areas Act of 1934 the South Wales Coalfield was made a Special Area and came under the control of a District Commissioner who undertook the task of improving social and economic conditions. The Treforest Industrial Estate developed in 1936 was the first of its kind in Wales and was equipped to meet the needs of modern industrial developments. Factory buildings were also constructed and were occupied for example by zip and clothing manufacturers.

2.6.6 Development Areas

Under the Distribution of Industries Act 1945, certain areas (mostly incorporating the Special Areas) were scheduled as Development Areas with their industrial development passing to the Board of Trade. This was responsible for the construction of factories throughout the area attracting light industry involved in the manufacture of goods ranging from springs, toys, and kitchen utensils to paper, rubber, paint, clothes and furniture.

2.6.7 Current Industrial Activity

A wide range of businesses currently operate in the Borough, including installations operating Part A1 IPPC activities which are subject to Permits under the Environmental Permitting (England and Wales) Regulations 2010. Under the IPPC (Integrated Pollution Prevention and Control) regime, which encompasses emissions to air, land and water, Part A1 activities are regulated by the NRW and Part A2 activities (none currently within RCT) by the local Authority. NRW hold a public register outlining the sites currently subject to Environmental Permits under their control. The register can be seen at: https://hazwasteregistrations.naturalresources.wales/permits/publicregister/search.

There are a number of Part B prescribed processes subject to Local Air Pollution Control (LAPC) by the Pollution & Public Health section of the Public Health and Protection Department. These consist of a range of process types, which can be found on the Council's Public Register which is held under the Environmental Permitting (England and Wales) Regulations 2010.

2.7 Protected Locations

Part of the Brecon Beacons National Park lies within the County Borough. This was established under the National Parks and Access to Countryside Act 1949. There are 17 Sites of Special Scientific Interest (SSSI) and one Candidate Special Area of Conservation within the Local Authority, which have been identified within the Statutory Guidance as *receptors*. At a local level 183 Sites of Important Nature Conservation have been identified which include wetlands, quarries, woods, marshes, woodlands, lakes and local nature reserves.

2.8 Key Property Types

The area contains 89 Scheduled Ancient Monuments, which include a Roman Camp, round barrows, round cairns, ring cairns, earthworks, a ventilation furnace and iron tram-road bridge. There are 374 listed monuments and 16 conservation areas.

2.9 Key Water Resource/Protection Issues

Welsh Water currently supplies water to the majority of properties with the area. However, 90 private water supplies are known to exist, supplying commercial properties, groups of domestic properties and single dwellings. The Public Health and Protection Department is currently risk assessing these supplies to ensure that they comply with bacteriological and chemical standards set for drinking water in the Private Water Supplies (Wales) Regulations 2010. The exact source of water for all of these supplies is not currently known but it is recognised that in order to protect the user, it will be important to obtain this information whenever possible in the future.

Other water protection issues in the area include two source protection zones completely within the county namely Penderyn and Cwmparc and one (the Schwyll source at Pencoed) that occupies it in part. These are shown in Figure 3

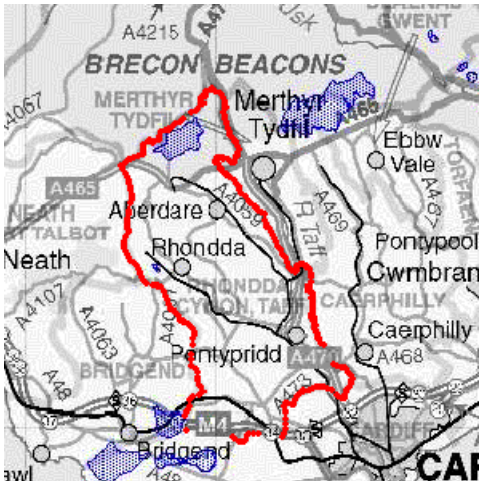


Figure 3, Source Protection Zones, hatching denotes the total catchment area, (from www.environment-agency.gov.uk, What's in my Backyard).

Groundwater vulnerability maps for the area show that there is one primary aquifer, as detailed in the Welsh Statutory Guidance. This is the Lower Carboniferous Limestone and land potentially resulting in the contamination of water contained within this aquifer would require investigation as a potential *Special Site*.

There are numerous streams and several rivers flowing through the area, all are recognised *receptors* under Part 2A. The Rhondda Fawr and Rhondda Fach rivers in the Rhondda Valleys coalesce at Porth before continuing on to Pontypridd where they join the River Taff. Upstream of their confluence, at Abercynon the River Taff is joined by the River Cynon as it leaves the Cynon Valley. Upon leaving Pontypridd the River Taff flows down the Taff Vale past Treforest Industrial Estate and Taffs Well before moving into Cardiff. In the south of the Borough there are two rivers. The River Ely flows down past Tonyerfail to Talbot Green, where the River Clun joins it, and then continues through Pontyclun. Like the River Taff it discharges into Cardiff Bay.

Several reservoirs are found within the Borough. Cantref and Llwyn-on are the larger and are found in the north along the Taff Fawr within the Brecon Beacons National Park. These are owned by Welsh Water and utilised for drinking water supplies. There are other smaller reservoirs including Penderyn, Nant-Moel, Clydach Lluest wen and Perthcelyn.

2.10 Remediation to Date

Following the Aberfan disaster in 1966, the Government set up a special unit at the Welsh Office to lead, encourage and co-ordinate a programme of reclamation to clear away derelict, unsightly or neglected land and restore it to productive and beneficial use. The functions of the Welsh Office were subsequently made the responsibility of the Welsh Development Agency. Councils identified areas that were so damaged by past industrial and other activity that they were incapable of beneficial use without treatment, and applications were then be made to the Welsh Development Agency for improvement grants under the Welsh Development Agency Act 1975. Where schemes were envisaged to increase the open market value of the land upon completion, the Welsh Development Agency required the councils to hold the freehold interest. This led to the Council's acquisition of sites requiring *remediation* and their involvement in its *remediation* through the Land Reclamation Team.

Welsh Development Agency grants did not cover natural dereliction or works that are covered by enforceable restoration conditions or statutory requirements (including *remediation notices*). Work has been undertaken at former colliery sites and areas of associated spoil. The treatment of the latter has often been reprofiling or removal, and occasionally, when economically viable, reworking to remove the coal fraction. In recent years the reclamation of Coed Ely Colliery and Coking Works has been undertaken with waste arising from the process being contained within a specially engineered encapsulation cell. WDA involvement at the former Phurnacite works in Abercwmboi has also seen the removal of two tar tips. The local community and other stakeholders have been closely involved in the project, which will see the land returned to beneficial use – regenerating the local community and environment.

Other sites' *remediation* has been secured through the planning process. Developers of land known to have past associations with potentially contaminating uses have been required by conditions attached to their planning permission to undertake site investigations. This geographical information system (*GIS*) developed by the Public Health and Protection Division has proved invaluable at the consultation stage in identifying such areas of land. Investigations are carried out prior to development and seek to characterise the exact nature of any potential *pollutant linkages* and ensure that they are addressed through appropriate *remediation*. Since 2010, the Welsh Government has not made any funding available to Local Authorities under the Capital Grants Scheme. This means that Welsh LAs do not have the resources available to undertake investigations under Part 2A of the Environmental Protection Act and it is envisaged that the majority of potentially contaminated land sites will be dealt with through the planning regime. In 2006 Land Contamination – A Guide for Developers, was published by the Welsh Local Government Association, Welsh Assembly Government and the NRW and was then updated in 2012. This is intended to be a reference document for

developers and their advisors who might be involved in the assessment and management of land contamination.

Other recent voluntary remediation projects include a number of former gasworks.

2.11 Known Information on Contamination

At the time of the initial publication two sites likely to meet the statutory definition of *contaminated land* were known to the Council. A considerable amount of information was available on these since they had been the subjects of several site investigations. One site (Brofiscin Quarry) was designated as a *Special Site in March 2005* as a result of indentified pollution to controlled waters and is regulated by NRW. Following extensive investigations and consultations, site remediation works were completed in June 2013 and included the capping of the site, incorporating leachate collection drainage, pressure relief trenches and surface water drainage collection. As a result of the aforementioned investigations and works, the Council does not consider that any further action is required in relation to Brofiscin Quarry at this time.

Chapter 3 The Council Strategy: Overall Aims

Chapter 1, section 1.1 outlines the Council's vision and shows how the Service Objectives of the Public Health and Protection Department support the achievement of those overarching goals.

Chapter 1, section 1.4 sets out the statutory aims of the CLIS. This chapter sets out the specific aims of the Council when dealing with contaminated land issues. The Council aims to:

1. To protect human health and well being
2. To encourage the redevelopment of damaged land/ reuse of brownfield land
3. To encourage voluntary *remediation*
4. To communicate and work effectively with other organisations to protect other *receptors*
5. To engage with local communities to find out what their priorities are
6. To ensure compliance with and enforcement of the legislation and statutory guidance

The CLIS has been designed in consultation with all parties within the Authority with any interest in land that has had a previous industrial use. They have been consulted on the draft and, in particular, asked to comment on the way in which it impacts on other strategic initiatives or work programmes. Every effort will be made to integrate the CLIS with other corporate strategies.

Contaminated land issues are often complex and dealing with potentially contaminated sites is difficult especially as information is often limited or unavailable. Decisions may have to be made before full details are available and it is anticipated that the decision making process will be aided by having regard for the Council's priorities.

3.1 The Aims of the CLIS

Protecting the health and well being of the community is a high priority for the Council. The ultimate aim of the CLIS will therefore be to identify all those areas posing a risk to human health and to remove those risks when possible.

The Council also recognises that *receptors* other than humans are covered by Part 2A, in particular *Controlled Waters*, and it aims to identify risks posed to these through the general inspection process.

The Area Regeneration Partnerships were specifically invited to comment on the draft CLIS so that the views of the community were given proper consideration and weight in the prioritisation process.

3.2 Objectives and Milestones

In order to achieve the stated aims the Council has set the following general objectives for the CLIS

1. To complete the historical map search of the County Borough and the preliminary inspection of records currently available to enable the identification of all potential sources of contamination.
2. To gain awareness of the occurrence and nature of all *receptors* through liaison with other departments and organisations.
3. To prioritise sites for further more detailed inspection thus ensuring that the most urgent are dealt with first.
4. To carry out more detailed inspections (primarily desktop studies) in order of priority.
5. In order to liaise and work effectively with other organisations the Pollution Control Officer will establish and maintain contact with the *appropriate person*s at an early stage.

Chapter 4 Local Authority Priority Actions and Timescale.

The overall aim of this chapter is to describe the specific approach that the Council has taken to date in fulfilling its statutory obligations to prepare the CLIS. It also continues with proposals for future actions, i.e. the inspection of its area to identify *contaminated land*.

4.1 Priority Actions

4.1.1 Appointment of Contaminated Land Officer 1997

After identifying its future obligations under the proposed *Contaminated Land Regime* the Council recruited a new Contaminated Land Officer in 1997 who was to prepare and implement the Council's CLIS.

4.1.2 Purchase of a Geographical Information System (*GIS*), August 1997

The Council had chosen GGP as the corporate geographical information system. This was used to compile a computer-based record of potentially contaminated areas of land identified from the historical map search and study of available records.

4.1.3 Preliminary Desktop Study commenced August 1997.

Whilst awaiting the implementation of the new *Contaminated Land Regime* the Contaminated Land Officer began a desktop study of the County Borough. The Department of the Environment's report 'Pilot Survey of Potentially Contaminated Land in Cheshire - A Methodology for Identifying Potentially Contaminated Land Sites' July 1990) was consulted to establish an approach to this work. Concentrating on land uses with a known potential to introduce contamination into sites, Ordnance Survey (OS) Maps from the 1800's onwards were scrutinised to identify such sites. All quarries and areas of infilling have been included on the database along with sites marked as 'works'. It is appreciated that this method may result in false positive results and may miss sites since land uses may have occurred without ever being recorded on a map. Public consultation may help to identify such gaps in the database. A search of the following collated documents was also undertaken at this stage:

- The Survey of Contaminated Land in Wales, Welsh Office 1988
- Environment Agency Draft List of Landfill Sites in Rhondda Cynon Taf, 1997
- Taff Ely Landfill Site Survey, 1990
- Cynon Valley Borough Council Derelict Land and Land Reclamation Report, 1985
- Taff Ely Borough Council, Register of Land which may be Contaminated, Edwards and Rice Ltd, March 1992

This work concentrated on the most populated areas of the Borough first and resulted in over 2500 potentially contaminated land sites being recorded on GGP. It was intended to complete the search by looking at the remaining more rural areas. The GGP system was also used to record the locations of other *receptors*. These

can be overlain to assist in the identification of land that has both potential sources of contamination and *receptors*.

4.1.4 Preparation of the Draft CLIS, July 2001 - May 2002

The draft CLIS was prepared in line with the technical advice issued by the DETR to guide local authorities in this task.

4.1.5 Consultation Period, August - September 2003

A two-week consultation period provided statutory and non-statutory consultees with opportunity to comment on the draft CLIS.

4.1.6 Preparation of the Final CLIS, September 2003

All information and comments generated through consultation were given due consideration as the draft CLIS was modified and finalised.

4.1.7 Adoption of the CLIS, January 2004

The final version of the CLIS was presented to Cabinet and adopted by the Council.

4.1.8 Publication of the CLIS, January 2004

The adopted CLIS was published and submitted to the Environment Agency (now NRW) via their Area Contaminated Land Officer. Copies were made available for the public and other interested parties to view at local libraries and by prior appointment at the offices of the Public Health and Protection Department and on the Council's website (www.rhonda-cynon-taff.gov.uk).

4.1.9 Dealing with Urgent Sites, May 2000 - ongoing

At the time of publication, work was being undertaken by the Environment Agency (now NRW) in conjunction with the Council to investigate and characterise a potential *Special Site* using monies made available by the Welsh Government. Whilst this site was not considered to be one requiring urgent action it was selected for investigation on the basis of the available information and its potential to be a *Special Site.* The work commenced prior to the introduction of the Contaminated Land Regime in Wales and culminated in the designation of Brofiscin Quarry, Groesfaen as a Special Site in March 2005. Remediation of the identified significant pollution linkages was completed in June 2013 by the Regulator (NRW).Any urgent sites that come to the Council's attention during the general inspection process will be dealt with as a priority over the general inspection schedule but may be subject to identifying appropriate funding.

4.1.10 Preliminary Desktop Study, September 2003-August 2004

The preliminary desktop study identified some 2,500 sites as containing potential sources of contamination and therefore requiring a more detailed inspection in order to establish whether significant contaminant linkages exist.

From overlays developed on our GGP system a strong correlation was seen between the location of potentially contaminating past land uses and potential *receptors* such as humans and *controlled waters*. This relationship has been discussed in Chapter 2. Since the publication of the CLIS in January 2004, two additional contaminated land officers have been appointed and the preliminary desktop study completed. Around 4,600 sites with a potential contaminating use

were identified. This information is now stored on a purpose built data management system (GeoEnviron), which was purchased and installed in February 2005.

4.1.11 Prioritisation August 2004 – ongoing.

The Council is required to ensure that the most seriously contaminated sites are identified and dealt with first. It is recognised that the different types of land use considered in the preliminary desktop study do not have an equal potential to generate harmful contaminants. Furthermore, they do not have an equal potential to result in *significant harm* or the pollution of *controlled waters*. Appendix 5 showing a risk-based classification of land illustrates these differences. With approximately 4,600 potentially contaminated sites identified it was necessary to rank and prioritise them for further investigation taking this into account and also considering the proximity of potential *receptors*. More importance was placed on sites with potential pollutant linkages involving human health since the Council has set the protection of this as one of its main aims (see Chapter 3). Using information relating to current and past uses a stage 1 prioritisation was commenced using GeoEnviron. This resulted in a large number of high-ranking sites and so the risk assessment was further refined taking into account the proximity of *controlled waters* (stage 1+ prioritisation). The full protocol is contained within Appendix 6. The prioritisation exercise is seen as a piece of ongoing work with further refinement possible over the coming years. For this reason Public Health & Protection will generally not be able to discuss the actual ranking of individual sites but would direct enquirers to Appendix 6 which should be consulted to provide a broad indication of the priority afforded to different types of sites.

4.1.12 Detailed Inspection of Sites – January 2009-2021

Sites will be inspected in the order of priority established by the prioritisation process. Inspections will be undertaken to obtain sufficient information to establish whether significant contaminant linkages are likely to exist and whether intrusive investigations are warranted. This information would be required for a determination to be made according to the Statutory Guidance issued by the Welsh Government this inspection may take the form of:-

- The collation and assessment of documentary information
- Assessment of information from other bodies
- A visit to the particular area for the purpose of visual inspection and in some cases limited sampling or,
- Intrusive investigation of the land. Where intrusive investigations of potential Special Sites (including RCL) are required the Council will seek to make the necessary arrangements with NRW.

Since 2010, Welsh Government no longer provides a capital funding programme for the investigation and / or remediation of contaminated land. In addition to this, the Council has no specific capital budget for the investigation and / or remediation of contaminated land. As a result, the Council will focus its resources on providing input into the Development Control process, by conditioning planning consents to require investigations / remediation to be undertaken where necessary. In addition Officers will provide comments on submissions received through the planning process or requests for pre-planning advice and contribute to the Local Development Plan process. The Council will keep this position under review and

modify it should funds become available from Welsh Government or other funding streams in the future.

4.1.13 Local Authority Owned Land.

As the main regulatory authority for the regime in Rhondda Cynon Taf, the Council recognises that it is important to adopt a responsible and transparent approach towards dealing with publicly owned *contaminated land*. Corporate Estates maintains records of land owned by the Council. This land has a variety of uses e.g. schools, leisure, industrial estates, allotments, housing and civic buildings. Land in a derelict or known contaminated state may also have been acquired in the past by the Council with a view to reclaiming it and returning it to the beneficial use of the community. Derelict/brownfield land is split into three categories with Corporate Estates being responsible for reclaimed sites still in Council ownership and unreclaimed inactive sites (i.e. sites not on a reclamation programme). Areas undergoing reclamation and certain disused landfill sites are likely to be the responsibility of the Land Reclamation & Engineering Department. It is possible that the Council may have leased *contaminated land* or been responsible for the potential contamination but is no longer the occupant or landowner. The Cabinet will be advised as soon as possible of any *contaminated land* where the Council is liable for all or part of the cost of *remediation.* All land will be treated in exactly the same manner under Part 2A irrespective of the fact that the Council may be an *appropriate person* and therefore liable for some or all of the costs of *remediation*.

4.1.14 Unitary Development Plan Land/ Local Development Plan Land

The Local Planning Authority was in the process of preparing and publishing a Unitary Development Plan when the requirement changed. A single Local Development Plan (LDP) was adopted in March 2011. It sets out a plan for what areas of land may be used for specified types of development up until 2021. Before adopting the LDP, there was a substantial period of public consultation and officers from within the Council, including the Contaminated Land Officers, were given opportunity for technical input.

The intended use of land and the likelihood of its development are critical factors in the contaminated land inspection prioritisation process. The LDP is therefore of vital importance, not least because the LDP is central to the overarching corporate objective of community regeneration. Consideration of land earmarked for development in the LDP is therefore a top priority and the Contaminated Land Team has brought potential contaminated land issues to the attention of the Forward Planning Department during the consultation process.

4.1.15 Controlled Waters, Protected Areas of the Environment and Buildings

The general process of investigation will bring to light threat from other Part 2A receptors. Overlays marking the positions of these have been incorporated into the GeoEnviron database to highlight their proximity to areas of potentially *contaminated land*. It is recognised that these *receptors* are important, but the Council's priority is to protect human health. However, those sites with both potential human health and controlled water receptors have been identified and prioritised for inspection above those with only the former (See Prioritisation Protocol, Appendix 7).

4.1.16 Inspection of Radioactive Contaminated Land (RCL), 2009 – 2021

For the identification of RCL the Council's duty is satisfied as long as it inspects particular areas of land where it has reasonable grounds for believing that land to be contaminated by virtue of radioactivity. The Council must be aware of relevant information relating to the three situations specified in Statutory Guidance. The Council will therefore consider these situations during the course of its general inspection process (section 4.1.12) and act in accordance with statutory guidance issued if any detailed inspections are required.

Chapter 5 Procedures

5.1 Internal Arrangements

Contaminated Land falls within the remit of Pollution & Public Health, Public Health and Protection (Community and Children's Services Group).

The lead officer for Part 2A of the Environmental Protection Act 1990 is the Senior Environmental Control Officer who reports to the Pollution & Public Health Manager. The Contaminated Land Team implements the CLIS on a day-to-day basis.

5.2 Local Authority Land Interests

It is possible that the Council itself may be identified as an *appropriate person* by virtue of its current or former ownership or occupation for example. As previously stated, it is the intention to treat all land in exactly the same open and transparent manner irrespective of who the *appropriate persons* are.

5.3 Information Collection

Many different sources of information were consulted in the process of identifying potential *sources* of contamination and potential *receptors*. Table 3 details some of the potential sources that have been consulted to date. This initial list may be expanded on as other sources of information are identified. The GIS has been used to correlate information of potential sources with *receptors* and help to identify potential *pathways*.

Table 3. Sources of Information

Source of Information	Information	Use
Historical Ordnance Survey Maps	Paper copies of Ordnance Survey Maps held by the Public Health and Protection Department and at local libraries, 1870's onwards.	To identify potential sources of contamination
Geological Survey Maps	Paper copies of solid and drift maps, scale 1:50,000, held by this department.	To identify potential sources, *pathways* and *receptors*
Hydrogeologic -al Maps	Groundwater Vulnerability Maps produced by the National Rivers Authority	To identify potential *receptors* and *pathways*
Groundwater Source Protection Zones (SPZ)	Areas of groundwater that receive special protection by the Environment Agency as identified on their website. www.environment-agency.gov.uk for use on the *GIS*.	To identify potential *receptors* (controlled waters) and *pathways*

Environmental Health Records	The Council maintains records of complaints and investigations	To assist in the identification of *contaminated land*. To identify potential sources.
Planning Records	The Local Planning Authority holds records of permission granted for development in the area, including ground conditions surveys	To identify potential sources and *receptors*. To consider whether *remediation* carried out is appropriate.
Local Plans	These reflect future land use	To identify potential *receptors* and sources
LDP	Statement of future proposed land use	To identify potential *receptors* and sources
Aerial Photographs	Aerial photograph coverage of the Borough is available from 1945 onwards, photographs held at the National Assembly for Wales.	To assist in the investigation of particular sites
Private Water Supplies	A GIS overlay has been set up to record all private water supplies known to the Council	To identify potential *pathways* and *receptors*
Part A1Installations	Details of authorisations required for polluting industrial processes available from NRW's website https://hazwasteregistrations.naturalresources.wales/permits/publicregister/search	To identify potential sources
Part B & A2 Installations	A record of polluting industrial processes under Council control is maintained within the Industrial section and has been incorporated into the GGP system	To identify potential sources
Waste Management Licences/Waste Environmental Permits	NRW's public register of sites permitted for waste activities. https://hazwasteregistrations.naturalresources.wales/permits/publicregister/search	To identify potential sources
Ancient Monuments Listed Buildings	The Council maintains a GIS overlay of these sites with information supplied by Cadw	To identify potential *receptors*
SSSI and other protected sites	The Council maintains a GIS overlay of these sites with information supplied by NRW	To identify potential *receptors*
Public Rights of Way	The Council maintains an overlay on the GIS system	To identify potential *receptors* when considering certain areas of land
Derelict Land	Plans of derelict land destined for reclamation are prepared by the Council	To identify potential *receptors* and sources

5.4 Complaints and Voluntary Information

The publication of the CLIS was publicised and made available in libraries and on the Council's web site. Members of the public, community groups and other Council departments were encouraged to contact officers in Pollution Control to make complaints about land which is affecting them or their property, provide voluntary information or bring certain land to the Council's attention.

5.4.1 Complaints

Complaints about contaminated land will be handled in the same way as complaints about other Environmental Health issues. Complainants may expect:

- their complaint to be recorded and logged on CIVICA; Public Health and Protection's computerised complaint handling system,
- to be contacted by a Pollution Control Officer or an Environmental Health Officer within 7 days to discuss their complaint
- to be kept informed as the investigation progresses and to be informed of the final outcome.

Whilst it is the project's aim to resolve complaints quickly and efficiently, it must be appreciated that the regime places certain obligations on the Council, of a largely procedural nature, that will slow this process down:

- Investigation will have to demonstrate a *significant contaminant linkage* before land can be determined as contaminated.
- A minimum period of three months must elapse between that determination being made and a *remediation notice* being served (except where urgent *remediation* is required).
- The Council must make every reasonable effort to identify the original polluter or a *Class A person*.

Experience has shown that each step in the process can involve considerable work and costs, as well as taking significant periods of time to complete. It is important for all concerned to appreciate that results will not be achieved overnight.

5.4.2 Voluntary Information

Information supplied by a person or organisation relating to contaminated land that is not directly affecting either their own health, the health of their family or, their property will not be regarded as a complaint. The information may be recorded and acted upon at the discretion of the Pollution & Public Health Manager. It is recognised that such information could be a valuable resource but would require careful validation.

5.4.3 Confidentiality

All complainants will be asked to supply their names and addresses. Their identity will remain confidential and would only be revealed if required by a Court of Law.

5.4.4 Anonymous Information

As a matter of policy Public Health and Protection does not normally undertake an investigation based on anonymously supplied information. However, this will not apply where the information suggests that there may be a significant risk to public health or controlled water.

5.5 Information Evaluations and Risk Assessment

The Council is required to carry out a scientific and technical assessment of the risks arising from *pollutant linkages* according to relevant, appropriate, authoritative and scientifically based guidance on such risk assessments. Statutory guidance states that in order to simplify such *risk assessment*, authoritative and scientifically based guideline values may be used. Therefore information on substances in, on or under the land will be risk assessed against current government guideline values (if available) to determine whether or not *harm* is significant, or there is significant possibility of *significant harm* arising from contaminants observed. As scientific research expands our understanding of contamination it may be necessary to revisit sites and reassess our original findings.

5.5.1 The Contaminated Land Exposure Assessment Model (CLEA 1.05)

ICRCL 59/83 (2nd Edition, July 1987) - Guidance on the Assessment and Redevelopment of Contaminated Land, provided a set of trigger and action levels for a limited range of commonly occurring contaminants derived for different land uses. However, these trigger levels were withdrawn by DEFRA in December 2002 because they unsuitable for assessing the "significant possibility of significant harm to human health" required by the new contaminated land regime under Part 2A of the Environmental Protection Act 1990.

The Department for the Environment, Food and Rural Affairs (DEFRA) and the Environment Agency subsequently launched CLEA in 2003, to assess the chronic risks posed to human health by land contamination. The Environment Agency had a rolling programme looking at 55 contaminants but UK Soil Guideline Values (SGVs) were subsequently only published for a limited number of contaminants including Arsenic, Cadmium, Chromium, inorganic Mercury, Nickel, Selenium, Lead, phenol, ethylbenzene and toluene. Tox reports were also published for a number of other contaminants. Although these identified the necessary health data SGVs were never derived. The model considered ten *pathways* for exposure and derived guideline values for three land uses: residential (with and without plant uptake), allotments, and commercial/industrial. SGVs were intended to inform judgements about the need for intervention to prevent unacceptable risks. Observed soil concentrations can be compared to SGVs where it is considered that the assumptions underlying the derivation of the guideline values are relevant to the circumstances. The CLEA package consisted of the main reports CL7-10, the CLEA 2002 software and the Soil Guide Values for individual substances. CLEA 2002 was subsequently replaced by CLEA UK. The whole package (including the CLR 7-10 documents and previously published SGVs) was then withdrawn by DEFRA in 2008 and new software (CLEA 1.03) released as a beta version for use by risk assessment professionals. The current version of CLEA is 1.07 and was issued in 2015. The EA have published two updated reports "Human health toxicological assessment of contaminants in soil" and "Updated technical background to the CLEA model". The revised guidance provides a framework that can be used to consider substances for which no SGVs are available.

In 2012 the revised Contaminated Land Statutory Guidance introduced a new four category system for classifying land as contaminated under Part 2A of the Environmental Protection Act 1990. This category system ranged from Category 4,

where the level of risk posed to human health or the environment is acceptably low, to Category 1, where the level of risk is clearly unacceptable.
To help regulators determine whether land was suitable for use and definitely not contaminated, a project research group was established to define the screening level for Category 4 utilising the CLEA software.
This project has now been completed and a methodology for developing Category 4 Screening Levels (C4SLs) has now been published along with C4SLs for six substances that are commonly identified in contaminated land risk assessments (cadmium, benzo(a)pyrene, benzene, arsenic, lead and chromium VI).

5.5.2 Radioactive Contaminated Land Evaluation and Assessment (RCLEA) Model

RCLEA is a Defra model which enables screening calculations to be performed to assess whether or not radionuclide concentrations are capable of leading to radiation doses of concern.

5.5.3 Other Assessment Criteria

Where a contaminant has been identified for which UK Generic Assessment Criteria (GAC) are not available; other appropriate non-UK GAC may be utilised to carry out a risk-based evaluation of information. A number of authoritative guideline values are available for use from other countries. The Council is aware that assumptions will have been made in deriving these and will have to be satisfied that these are appropriate to the *pollutant linkage* in question. In some instances it may be necessary to undertake a Detailed Quantitative Risk Assessment (DQRA) utilising commercial *risk assessment* models. Default values will have been incorporated into these and the Council will have to be satisfied that these are also appropriate for the *pollutant linkage* in question. The Council will endeavour to ensure that all work undertaken is compliant with current UK policy
In certain circumstances it may be appropriate to use Occupational Exposure Limits (OELs) from the Health and Safety Executive.

5.5.4 Risk Assessment for Controlled Waters

Advice will be sought from NRW on risk assessments where *controlled waters* form part of *pollutant linkage*. It is anticipated that the *risk assessment* will be carried out in accordance with NRW guidance as laid out in the document 'Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part 2A of the Environmental Protection Act 1990'.

5.5.5 Risk Assessment for Ecological Systems

The Environment Agency published an ecological risk assessment (ERA) framework for contaminated soils. This was developed in collaboration with the Defra, Natural England, Welsh Assembly Government, CCW, local authorities and industry. The framework consists of a three-tiered risk assessment process:

- Tier 1 – comparison of chemical analyses of site soils with soil screening values (SSV) for the contaminants of potential concern.
- Tier 2 – uses a choice of tools (ecological surveys and biological testing) to gather evidence for any harm to ecological receptors (plant and animal species) present at the site.
- Tier 3 – seeks to attribute the harm to the chemical contamination.

Statutory guidance also requires that the Council should adopt an approach consistent with that of the Countryside Council for Wales in making any such determinations. Their advice will therefore be sought on *risk assessment*s where ecological systems are concerned.

5.5.6 Conceptual Site Model

All information obtained on a particular site will be used to develop a conceptual site model. The model will identify

- All *receptors*
- All *pathways* by which they could be exposed
- All contaminants associated with the former uses of the site or thought likely to be present.

It provides a representation in summary form of the nature of the contamination problem and demonstrates the risk assessor's understanding of the problem. Conceptual models can be expressed in tabular, matrix or pictorial forms and aid communication within teams and other with stakeholders.

5.6 Interaction with Other Regulatory Regimes

Other regulatory regimes may be used to address certain issues of land contamination. Overlaps with planning, building and development control, water pollution control and the Environmental Permitting Regulations are considered here. Where one or more of these other regimes apply, regulatory action under Part 2A may not be appropriate.

5.6.1 Planning and Development Control

Central Government has emphasised the need to make full and effective use of land within existing urban areas, including bringing derelict, unused or wasteland into use through conversion and redevelopment. The Welsh Government has issued a draft Technical Advice Note 'Development on Contaminated Land' which states that the planning system should guide development to lessen the risk from hazards associated with *contaminated land*.

Local Planning Authorities (LPA) are responsible for regulating development and land use in the public interest. When considering development proposals there is an obligation to ensure that all material planning considerations, which can include the actual or possible presence of contamination, are satisfactorily addressed. The LPA is required to consult with certain statutory consultees under the Town and Country Planning Act (General Permitted Development Order) 1990, over certain types of development and for development in specific areas. Where previous land use information suggests that there is a potential for contamination to be present, conditions may be attached to the planning consent requiring the developer to undertake an investigation of the land to help identify the risks posed to the development and design appropriate *remediation*. *Remediation* would then be dealt with under the Planning Controls and not Part 2A. As statutory consultees where contamination is suspected, the Public Health and Protection Division provides advice on technical matters relating to c*ontaminated land* and the discharge of planning conditions.

Remediation actions may also require planning permission. Where *remediation* is carried out under a remediation statement the onus is on the person carrying out the works to obtain all necessary permission. If works are being carried out under a *remediation notice* specified by the Council, it must be practicable. For example it should satisfy development control criteria.
When considering past development on potentially *contaminated land* it will be important to consider the appropriateness for the present land use of any previous *remediation* that may have been carried out. The same will be true of derelict land reclamation.

5.6.2 Building Control

Building Regulations ensure the health and safety of people in and around buildings by providing functional requirements for building design and construction. Builders and developers are required to obtain building control approval, which requires an independent check made through Council building control functions or the National House Building Council (NHBC).

Contamination is covered by Requirement C1 of the Building Regulations (2010), which states that precautions should be taken to avoid danger to health and safety caused by substances found on or in the ground to be covered by the building. Contamination is also relevant to Requirement A concerning the structural integrity of buildings.

5.6.3 Integrated Pollution Prevention and Control (IPPC)/Environmental Permitting Regulations (2010).

Previously IPPC legislation regulated pollution arising from the most polluting industrial processes and required Part A processes site operators to undertake a site condition survey prior to receiving a license to operate. Now, any new Part A prescribed processes (activities) are subject to Environmental Permitting and will also require a site condition survey. These act as a point of reference for regulators for judging whether there has been any additional contamination of the installation during the operation. On surrender of the permit a second survey is required. The Regulator will hold the operator responsible for any pollution arising on site that was not reported in the original survey (unless for example pollution has clearly migrated on site) and will issue an enforcement notice requiring the Operator to remedy the pollution. Enforcement Notices will also be served to remedy pollution resulting from breaches of permit conditions. In certain circumstances Part 2A action may still be appropriate, for example, where the original site condition survey identifies areas of land that may be designated as *contaminated land* or contamination is identified in parts of the site not covered by the installation.

5.6.4 Water Pollution Legislation

The Water Resources Act 1991 gives the NRW powers to deal with *harm* to *Controlled Waters* being caused by *contaminated land*. Whilst Part 2A does not revoke these powers, it has been indicated that such problems should now be dealt with under the *Contaminated Land Regime*. The Council will therefore:

- Consult with the NRW before designating any land as contaminated as a result of risk to *Controlled Waters* and will consider any comments made with respect to *remediation*

- If the NRW identifies a risk to *Controlled Waters* from *contaminated land*, the Council will be notified to enable designation of the land and remedial action will be taken under Part 2A.

Controlled waters are defined by Section 104 of the Water Resources Act 1991 as:

- Inland freshwaters, waters of any lake or pond (including reservoirs) or of so much of any relevant river or watercourse (including underground rivers or watercourse and artificial rivers or watercourse) as is above the freshwater limit, and ground waters, that is to say, any waters contained in underground strata.
- Reference to waters in the above also includes the bottom, channel or bed of any lake, pond or river that is for the time being dry.
- Ground waters for the purposes of Part 2A are considered by the NRW to consist only of water within the saturated zone. Therefore only water at or below the water table (including water that serves wells and boreholes) can be considered as *receptor* rather than soil/pore water within the unsaturated zone.

5.6.5 Waste Management Licensing (Environmental Permits)

If any significant harm or pollution of *controlled waters* (or land) arises off-site because of a breach of a Waste Management Licence or Environmental Permit (or results from activities specifically authorised by the licence/permit, then Part 2A does not apply.

Chapter 6 General Liaison and Communication

Many aspects of work under Part 2A require effective communication and liaison with other individuals and organisations to facilitate the exchange of information. It is the intention of the Council to take an approach that fully involves communities that may be affected by contaminated land and is seen as an important part of our Community Leadership role. To this end, our goals and objectives for community involvement are:

- Earning trust and credibility through open and respectful communications
- Helping community members understand what the process involves
- Promoting collaboration between the Council and communities and other agencies
- Providing opportunities for communities to become involved
- Managing and co-ordinating health communication activities with appropriate communities
- Informing and updating communities about the Council's work
- Assisting communities in understanding the possible health impacts of exposure to hazardous substances

This approach has been successfully used by the Agency for Toxic Substances and Disease Registry (ATSDR) an independent federal agency in the United States of America.

6.1 Other Statutory Bodies

Contacts have already been established with organisations acting as statutory consultees on the CLIS. Some of these organisations will also be able to provide information relevant to the determination of *contaminated land*. Local Authorities are required to adopt an approach consistent with other statutory bodies in making such a determination; for example where ecological systems are involved NRW would be consulted. Formal contact has therefore been established with the above and details are provided in Appendix 4.

6.2 Non-statutory Consultees

In addressing *contaminated land* issues the involvement of local business, the public and the wider community may be appropriate. These make up a group known as non-statutory consultees and were not approached individually to comment on the draft CLIS. It was the Council's intention to raise awareness of contaminated land and encourage wider involvement in the development of the CLIS by publicising the availability of the draft for comment. A press release was therefore prepared for local papers.

6.3 Communicating with Owners, Occupiers and Other Interested Parties

Pollution Control Officers will act as the main point of contact within the Council for contaminated land issues. They will be responsible for establishing and maintaining contact with polluters, owners, occupiers and relevant parties prior to the formal determination of a piece of land as *contaminated*. It is the intention of Central Government that wherever possible, land contamination should be dealt with on a voluntary basis through consultation, rather than by serving a *remediation notice*. Incentives for voluntary *remediation* exist in the form of exemption from the landfill tax (introduced by the Finance Act 1996) for the *remediation* of *contaminated land*. However this applies only where a *remediation notice* has not been served under Section 78E. The Council will therefore seek to secure voluntary *remediation* before taking enforcement actions.

6.4 Notifying others of Determinations.

Notification is the formal process by which the Local Authorities inform certain parties that a particular area of land is *contaminated land* within the meaning of Part 2A. The formal notification marks the start of the three-month requisite consultation period between the Council and *appropriate persons* on what *remediation* will be appropriate and on liabilities for the cost.

The Council will undertake the following actions:

- Acting on the best available information at the time, identify interested persons, i.e. the owner of the land; the apparent occupier(s) of all or part of the land; the persons who appear to be the *appropriate persons*.
- Inform interested parties including the NRW in writing of their intention to make a determination. The letter will inform them of the capacity in which they are being informed of the Council's intent.
- Notify the interested persons and the NRW that the land has been determined as *contaminated* in writing. The letter will identify the capacity in which they are being notified. All *appropriate persons* will be provided with a summary of the basis for making the determination and why they are considered to be appropriate persons. The Council will write to all *appropriate persons* with information on the tests for exclusion from, and apportionment of liabilities for the *remediation* of the site. The letter will also inform the recipient of the Council's preference to securing *remediation* through voluntary actions rather than through the serving *remediation notices*.
- If requested, dispatch a copy of any additional information that may assist in consultation or in securing voluntary *remediation*.
- When appropriate, inform interested parties that the *contaminated land* may become a *Special Site*.
- Write to the owner and/or occupier of neighbouring property and/or the complainant notifying them of the determination.
- Notify (as soon as possible) any other person identified as an *appropriate person.*

6.5 Formal Designation of Special Sites

If the Council considers that an area of *contaminated land* might need to be designated as a *Special Site*, it will consult with the NRW and seek their advice. If the Council decides, having regard to any advice received, that the land should be designated as a *Special Site* it will notify the owner and/or occupier, any *appropriate person* and the NRW. The NRW has 21 days to object to the Council. If objections are not received the Council notifies the relevant persons and the designation takes effect. If the NRW objects the Council will refer the decision to the National Assembly for Wales and inform the relevant persons. Once a site has been designated as a *Special Site* the Council must enter the details in its Contaminated Land Register and the NRW becomes the *enforcing authority*.

6.6 Service of Remediation Notices

The *enforcing authority* has a duty to require the *remediation* of land designated as *contaminated land*. They must reasonably endeavour to consult with the *appropriate persons*, the owner and/or occupier of the site concerning what is to be done by way of *remediation*. If, after a period of three months has elapsed from the serving of notices determining the land as *contaminated land*, the *enforcing authority* considers a *remediation notice* will be the most appropriate way of securing *remediation*, the *enforcing authority* must serve a *remediation notice*. Before serving a notice, the *enforcing authority* must make reasonable attempts to consult with the owner, occupiers or others who may join in any granting of rights of entry. The notice must be served on all *appropriate persons* and must state what is to be done by way of *remediation* and the period in which this is to be completed. The person(s) on whom the notice is served must be advised of their right to appeal. A copy must be provided to the owner and/or occupier of the *contaminated land* and the NRW. Where the Council is the *enforcing authority*, Public Health & Protection will inform the owners and occupiers of neighbouring land. This process is set out in a flow chart in Appendix 8.

6.7 Urgent Remediation

Urgent *remediation* may be required where the Council considers the condition of the land is such that there is an imminent danger of serious *harm* or serious pollution to *Controlled Waters* being caused. Under these circumstances the Council does not have to observe the requisite consultation period with the *appropriate persons*, owners and/or occupiers and may serve a notice immediately. Where the Council identifies an urgent need for *remediation*, but is unable to establish who the *appropriate persons* are, the Council may carry out the *remediation* in default and recover reasonable costs at a later date.

6.8 Powers of Entry

Under Section 108(6) of the Environment Act 1995, Local Authorities have been granted powers of entry to carry out investigation. At least seven days notice must be given to the owner and/or occupier of proposed entry onto any residential property or if taking heavy equipment onto a premises, unless there is immediate

risk to human health or the environment. These powers will be exercised in accordance with the Powers of Entry Code issued under the Protection of Freedoms Act 2012 or when applicable the Police and Criminal Evidence Act Code B."

6.9 Enforcement Action

The Council will have regard to the Regulators' Code in all aspects of legislation which has been deemed as "specified regulatory functions". Further information on the Regulators' position on this subject can be found within Rhondda Cynon Taf County Borough Council Corporate Enforcement Policy.
http://www.rctcbc.gov.uk/EN/Business/TradingStandards/RIPAdocs/Corporateenforcementpolicy2015.pdf

6.10 Risk Communication

Contaminated land issues are often complex and since the UK has adopted a risk-based approach it will be necessary for the *enforcing authority* to communicate the *risk assessment* and management involved to all stakeholders.
SNIFFER (Scotland and Northern Ireland Forum for Environmental Research) has prepared a document "Communicating Understanding of Contaminated Land Risks, "which provides a basic step-by-step guide to risk communication and relationship building with stakeholders. This highlights the need to enter into early dialogue with all the stakeholders identified, to invest time and effort into ongoing communication, and to assess the effectiveness of the approach in achieving the desired results.

The Council will aim to be open, accessible, listening and responsive in all aspects of its communication with a view to providing a shared understanding of the *risk assessment* and risk management processes involved. Ultimately any decision on whether a particular risk is acceptable or not, is both personal and subjective; credible regulation will recognise this and take into account the views, priorities and expectations of those parties affected, as well as those responsible for the situation (SNIFFER 1999). It should be stressed that Local Authorities can only address unacceptable and significant risks as set out in the Statutory Guidance. Enforcing authorities can only require that *remediation* eliminates these risks. It is envisaged that the public may not always have their expectations met by the remedial powers conferred by Part 2A. The Council will seek to engage with the communities around contaminated land sites. This was demonstrated when establishing communication mechanisms prior to the determination of the former Brofiscin Quarry as contaminated land. The measures included the establishment of a residents' liaison group, regular newsletters and a mobile exhibition set up on the village green. This ensured that the community was fully informed about the progress and results of the investigation as soon as possible and given the opportunity to question the regulators about the impact of the determination and the risks associated with site before and after remediation. The Council will aim to be open, honest and objective about the risks but not to cause unnecessary alarm or to generate publicity, which might lead to blight.

Chapter 7 Inspection

Potentially contaminated land sites identified on the basis of there being a potential source of contamination in proximity to *receptors* will undergo a prioritisation process. This will provide an order of action for the more detailed site inspections.

7.1 Arrangements for Carrying Out Detailed Inspections

Detailed inspections are required to ensure that the Council has the information it needs to decide whether a particular area of land appears to be *contaminated land* and if so, whether it could be a *Special Site*. Welsh Statutory Guidance covers the inspection of particular areas of land and prescribes the form that the detailed inspections may take. The Council will therefore undertake an assessment of all available documentary information to determine whether there is a reasonable possibility that *pollutant linkages* exist. Former workers and local residents may also be able to provide valuable information.

7.1.1 Detailed Inspections

The Council will only consider further inspection where initial studies have shown that there is a reasonable possibility that a *pollutant linkage* exists. These inspections will take the form of

- A visual inspection of an area, and in some cases limited sampling; or
- Intrusive investigation of the land (exploratory excavations) but only where necessary funding can be secured.

7.1.2 Potential Special Sites

Before undertaking any further inspections the Council will consider whether the information from the desktop study has indicated that the site may be a *Special Site* (including RCL). If this is the case the advice of the NRW will be sought. The NRW will then be afforded the opportunity of an early involvement with the site, and invited to carry out the inspection on the Council's behalf.

7.1.3 Statutory Powers of Entry

Section 108 of the Environment Act 1995 gives a Local Authority the power to authorise persons to enter premises to carry out inspections. This can include collecting samples and carrying out any related work needed by the Local Authority to determine whether the land is *contaminated*. The Council will observe those constraints placed on the use of these powers by the Welsh Statutory Guidance.

7.1.4 Visual Inspections

Often referred to as site reconnaissance, visual inspections allow the Council to check that the documentary information matches reality and allows additional information to be obtained. It may not be necessary to physically enter the site for this purpose. “CLR2, Guidance on Preliminary Site Inspection of Contaminated Land, DoE 1994” containing technical advice on visual inspection will be consulted along with any other appropriate references identified.

7.1.5 Intrusive Investigations

In accordance with Welsh Statutory Guidance the Local Authority will only undertake intrusive investigations using its statutory powers of entry where it is satisfied that on the basis of the information already obtained that

- There is a reasonable possibility of a *pollutant linkage*; and
- it is likely that both the *contaminant* and *receptor* are actually present.

7.1.6 Site Specific Liaison

The Local Authority will liaise with relevant statutory bodies and other *appropriate persons* such as the landowner prior to carrying out intrusive investigations. This will allow them to make available to the Council any detailed information that they may have to assist in the determination. Where a person offers to provide this information within a reasonable time limit and does so, the Council will not undertake an intrusive investigation.

7.1.7 Procurement of External Services

It may become necessary to procure the services of external contractors and consultants to assist the Council in its inspection process. The Council's policy on procurement will be observed in these instances.

Since the *remediation* of *contaminated land* is usually very costly, the decision to determine land as *contaminated land* is likely to be scrutinised and contested in Court. Inspections and reports must therefore be of high quality. Due care will be exercised when securing external services and DoE guidance (A Quality Approach for Contaminated Land Consultancy, CLR12, 1997) will be considered.

7.1.8 Frequency of Inspections

Part 2A of the Environmental Protection Act 1990 requires Local Authorities to inspect their areas from time to time. The frequency is not prescribed. After the first round of inspections have been completed, the Council will consider how best to meet this requirement in light of the findings to date.

Chapter 8 Review Mechanisms

This CLIS outlines the general approach that will be taken in inspecting the County Borough for contamination. This chapter describes triggers for undertaking inspections outside of this general approach, triggers for reviewing inspection decisions and a mechanism for reviewing the CLIS itself to ensure that it remains effective and up-to-date.

8.1 Triggers for Undertaking Inspections

It may be necessary to carry out inspections outside the general inspection framework under certain circumstances, which may include:

- Localised health effects being identified which appear to relate to a particular piece of land
- Unforeseen events, e.g. if a chemical spill has occurred
- Supporting voluntary *remediation*
- Introduction of new *receptors*, e.g. if housing is to be built on a potentially contaminated site
- Responding to information from other statutory bodies, owners, occupiers, or other interested parties.

It should be emphasised that for the CLIS to progress effectively, non-routine inspections should not be allowed to significantly interfere with the general inspection framework.

8.2 Triggers for Reviewing Inspection Decisions

There may be instances when the decisions of previous inspections require reviewing. These may include:

- Significant changes in legislation
- Establishment of significant case law or other precedent
- Significant reviews of toxicological data used for risk assessments
- Verifiable reports of unusual or abnormal site conditions
- Responding to information from other statutory bodies, owners or occupiers, or other interested parties.
- Localised health effects apparently relating to a particular area of land
- Unplanned changes in the land use.

8.3 Review of CLIS

It is important to assess the effectiveness of the CLIS through the review process. This will ensure that the requirements of Part 2A are being met and that there is efficient use of resources.

The CLIS was adopted and published in January 2004. At that time it was intended to review the progress made in January 2005, one full year after the strategy's implementation. If progress was found to be satisfactory the next review was scheduled for 2007 when inspections were due to have been completed and sites prioritised for remediation.

Progress with the CLIS has been significantly slower than anticipated. There has been a considerable reduction in available officer time due to: -

- Involvement with the inspection, designation, ongoing monitoring and remediation of one *Special Site*
- Ongoing involvement with the redevelopment of potentially contaminated land through the planning process.
- An increase in the number of functions performed by the Pollution Control Officers.
- Welsh Government's removal of capital grant funding for contaminated land.

Whilst involvement via the planning process continues to place a significant demand on officer time, it provides an alternative mechanism for dealing with contamination by ensuring that the land is suitable for use and securing remediation on a voluntary basis. In addition to the above pressures, the absence of any capital grant funding for contaminated land since 2010 has significantly hindered Welsh Local Authorities in the formal investigation of contaminated land.

The first full review of the CLIS was completed in 2008. The strategy has been revised in 2016 to take into account the extension of Part 2A to cover RCL and the Statutory Guidance published in 2012.
Progress reviews are now scheduled at five-yearly intervals and the next review will be undertaken in 2021.

Chapter 9 Information Management

The *Contaminated Land Regime* will result in Local Authorities handling and storing significant amounts of information and data in connection with sites undergoing inspection and *remediation*.

9.1 The Public Register

Local Authorities are required by the legislation to maintain a public register of certain information relating to the *remediation* of *contaminated land*. This specifies that the following information is to be included on the register:

- *Remediation Notices*
- Appeals against *Remediation Notices* and the decisions on such appeals
- Remediation declarations, remediation statements, notification of claimed *remediation*
- Appeals against charging notices
- Designation of *Special Sites*
- Convictions
- Guidance issued by the NRW to it under subsection 1 of Section 78V

The Register acts as a permanent record of all regulatory action taken in relation to the *remediation* of *contaminated land*. It should be noted that where land has been determined as *contaminated land* it would not appear on the Public Register until regulatory action is undertaken.

In Rhondda Cynon Taf, the register will be maintained by the Senior Environmental Control Officer who will ensure that all information is recorded as a matter of priority enabling the register to be as up-to-date as possible. The register will be paper-based for the foreseeable future and held by the Public Health and Protection Division at its offices, Ty Elai, Dinas Isaf East, Williamstown, Tonypandy, CF40 1NY. Members of the public may view the register free of charge during normal office hours. Facilities to make copies will be available subject to the Council's current rate of charges.

9.2 Information Excluded from the Register

Before information is included on the Public Register Local Authorities must consider whether it should be excluded on the grounds of commercial confidentiality or national security. Where information is excluded on such grounds the Council will make a statement on the register indicating the existence of such information.

The Public Register will not include details of land identified as potentially contaminated, or include research documents used to investigate potentially contaminated land. These will be stored separately and used by the Council to respond to requests for information about specific sites under the Environmental Information Regulations 2004. Enquiries should be made to Public Health & Protection and should include the site's address, grid reference and plan showing the site. A fee will be levied for the provision of this information where appropriate.

The fee will be set in accordance with the fees and charges in force at the time the enquiry is made.

9.3 Provision of Information to Natural Resources Wales

The Council will, upon the receipt of a written request from NRW, supply them with information required for their annual report for the Welsh Government on the state of contaminated land in Wales.
Local Authorities are also required to inform NRW whenever a site is determined as *contaminated land*, and whenever a *remediation notice*, statement or declaration is issued or agreed. The Council will adopt the standard forms provided by NRW for these purposes to fulfil its statutory obligations.

Appendices

Appendix 1 Table 1 - Welsh Statutory Guidance 2012

Table 1 Ecological system effects

Relevant types of receptor	Significant harm	Significant possibility of significant harm
Any ecological system, or living organism forming part of such a system, within a location which is: • a site of special scientific interest (under section 28 of the Wildlife and Countryside Act 1981) • a national nature reserve (under s.35 of the 1981 Act) • a marine nature reserve (under s.36 of the 1981 Act)[7] • an area of special protection for birds (under s.3 of the 1981 Act) • a "European site" within the meaning of regulation 8 of the Conservation of Habitats and Species Regulations 2010 • any habitat or site afforded policy protection under paragraphs 5.2.2-5 TAN 5 Nature Conservation and Planning (i.e. candidate Special Areas of Conservation, potential Special Protection Areas and listed Ramsar sites); or • any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949.	The following types of harm should be considered to be significant harm: • harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or • harm which significantly affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location. In the case of European sites, harm should also be considered to be significant harm if it endangers the favourable conservation status of natural habitats at such locations or species typically found there. In deciding what constitutes such harm, the local authority should have regard to the advice of the Countryside Council for Wales and to the requirements of the Conservation of Habitats and Species Regulations 2010	Conditions would exist for considering that a significant possibility of significant harm exists to a relevant ecological receptor where the local authority considers that: • significant harm of that description is more likely than not to result from the contaminant linkage in question; or • there is a reasonable possibility of significant harm of that description being caused, and if that harm were to occur, it would result in such a degree of damage to features of special interest at the location in question that they would be beyond any practicable possibility of restoration. Any assessment made for these purposes should take into account relevant information for that type of contaminant linkage, particularly in relation to the ecotoxicological effects of the contaminant.

[7] Will be superseded by Marine Conservation Zones upon commencement of Part 5 of the Marine and Coastal Access Act 2009.

Appendix 2 Table 2 - Welsh Statutory Guidance 2012

Table 2: Property effects

Relevant types of receptor	Significant harm	Significant possibility of significant harm
Property in the form of: • crops, including timber; • produce grown domestically, or on allotments, for consumption; • livestock; • other owned or domesticated animals; • wild animals which are the subject of shooting or fishing rights.	For crops, a substantial diminution in yield or other substantial loss in their value resulting from death, disease or other physical damage. For domestic pets, death, serious disease or serious physical damage. For other property in this category, a substantial loss in its value resulting from death, disease or other serious physical damage. The local authority should regard a substantial loss in value as occurring only when a substantial proportion of the animals or crops are dead or otherwise no longer fit for their intended purpose. Food should be regarded as being no longer fit for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a contaminant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss. In this Chapter, this description of significant harm is referred to as an "animal or crop effect".	Conditions would exist for considering that a significant possibility of significant harm exists to the relevant types of receptor where the local authority considers that significant harm is more likely than not to result from the contaminant linkage in question, taking into account relevant information for that type of contaminant linkage, particularly in relation to the ecotoxicological effects of the contaminant.
Property in the form of buildings. For this purpose, "building" means any structure or erection, and any part of a building including any part below ground level, but does not include plant or machinery comprised in a building, or buried services such as sewers, water pipes or electricity cables.	Structural failure, substantial damage or substantial interference with any right of occupation. The local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended. In the case of a scheduled Ancient Monument, substantial damage should also be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled. In this Chapter, this description of significant harm is referred to as a "building effect".	Conditions would exist for considering that a significant possibility of significant harm exists to the relevant types of receptor where the local authority considers that significant harm is more likely than not to result from the contaminant linkage in question during the expected economic life of the building (or in the case of a scheduled Ancient Monument the foreseeable future), taking into account relevant information for that type of contaminant linkage.

Appendix 3 Contact Details for Internal Liaison

Children's and Community Services

Public Health and Protection Department
Ty Elai,
Dinas Isaf East,
Williamstown,
Tonypandy,
CF40 1NY Telephone No: 01443 425001

Chief Executives Division

Development Control/Strategic Projects
Sardis House
Sardis Road
Pontypridd Telephone No: 01443 425004

Forward Planning Team
Valleys Innovation Centre
Navigation Park
Abercynon Telephone No: 01443 665700

Legal Services
Municipal Buildings
Llewellyn Street
Pontypridd Telephone No: 01443 424330

Corporate and Frontline Services

Corporate Estates
Pavilion E
The Pavillions
Clydach Vale Telephone No: 01443 665700

Appendix 4 Contact Details for Statutory Consultees

Natural Resources Wales
Ty Cambria
29 Newport Road
Cardiff
CF24 0TP Telephone No: 029 20 770088

CADW - Welsh Historic Monuments
Cathays Park
Cathays
Cardiff
CF10 3NQ Telephone No:029 20500200

Food Standards Agency (Wales)
1st Floor
Southgate House
Wood Street
Cardiff Telephone No: 029 20678999

Public Health Wales
Temple of Peace and Health
Cathays Park
Cardiff
CF10 3NW Telephone No: 02920 402478

Welsh Government
Environment Project 3
Cathays Park
Cathays
Cardiff
CF10 3NQ Telephone No. 029 20500200

Appendix 5 Risk-Based Classification of Land Uses

Taken from 'Desk reference Guide to potentially Contaminative Land Uses' Paul Syms, the following table shows a perceived hierarchy of the likelihood of finding contamination on site. The perceived risk category is intended to indicate the likelihood of contaminative substances being present at concentrations which would result in *significant harm* being caused or may result in the pollution of *Controlled Waters*. The index of perceived risk is intended to represent the potential for contaminative substances to be present, at concentrations which will require remedial action to be undertaken if the site is to be redeveloped (1=certainty).

Hazard Rank	Land Use Classification	Index of Perceived Risk	Perceived Risk Category
1	Asbestos Manufacture and use	High	1.00
2	Organic and inorganic chemical production	High	0.93
3	Radioactive materials processing/disposal	High	0.88
4	Gasworks, coke works, coal carbonisation	High	0.85
5	Waste disposal sites, hazardous waste, incinerators, sanitary depots, drum and tank cleaning and solvent recovery	High	0.85
6	Oil refining, petrochemical production and storage	High	0.84
7	Manufacture of pesticides	High	0.83
8	Pharmaceutical industries, including cosmetics and toiletries	High	0.82
9	Fine chemicals, dyestuffs and pigments manufacture	High	0.82
10	Paint, varnishes and ink manufacture	High	0.79
11	Animal slaughter and by-products including soap, candle and bone works; detergent manufacture	High	0.78
12	Tanning and leather works	High	0.77
13	Metal smelting and refining, furnaces forges, electroplating, galvanising and anodising	High	0.74
14	Explosives industry including fireworks	High	0.73
15	Iron and steel works	High	0.72
16	Scrap yards	High	0.68
17	Engineering; heavy and general	Medium	0.66
18	Rubber products and processing	Medium	0.65
19	Tar/bitumen, linoleum, vinyl & asphalt works	Medium	0.65
20	Concrete, ceramics, cement and plaster works	Medium	0.65
21	Mining and extractive industries	Medium	0.65
22	Electricity generating (excluding nuclear power stations)	Medium	0.64
23	Film and photographic processing	Medium	0.63
24	Manufacture of disinfectants	Medium	0.62
25	Paper and printing works (not high street)	Medium	0.60
26	Glass manufacture	Medium	0.58
27	Fertiliser manufacture	Medium	0.58
28	Timber treatment	Medium	0.58
29	Sewage treatment works	Medium	0.54
30	Petrol stations and vehicle repair	Medium	0.53
31	Transport depots, local authority yards and depots, road haulage and refuelling	Medium	0.53

32	Railway land including yards and tracks	Medium	0.53
33	Electrical/ electronics manufacture	Medium	0.48
34	Textiles manufacture and dyeing	Medium	0.48
35	Laundries and dry-cleaning (not high street)	Medium	0.48
36	Plastic products, building material, fibre glass manufacture	Medium	0.48
37	Dockyards and wharves	Low	0.48
38	Food processing, brewing and distilling	Low	0.45
39	Airports and similar	Low	0.45

Appendix 6 Prioritisation Protocol

Past Land Use Identification

- Industrial past land uses were identified using Historical Maps and recorded on the Council's GGP GIS software package as detailed in the Council Part 2A Strategy.

- Historical map searches utilised 6" OS County Series 1st to 4th Editions (approx. 1875 – 1948) and later OS 1:2500 sheets (1950s – 1990s) and OS Landline (GGP) 2003.

- Identified past uses were recorded within a database and boundaries digitised onto a searchable GGP overlay. (Note: Boundaries of all sites are approximate based upon visual reference to existing boundaries and local landmarks**.)**

Site prioritisation

- Past land uses were prioritised using purchased Geokon Risk Prioritisation Software (see below).

- Past land uses were categorised into one of 4 site types:

    - Past Land Use (PCL) - Historical industrial use where no Part 2A determination has been made to date (excluding landfills)
    - Landfills (LF) – Past / present landfill sites identified from "1", Council records and Environment Agency Licenses.
    - Contaminated Land (CON) – Sites determined as "contaminated land" under Part 2A.
    - Special Site (SS) – Sites determined as a "special site" under Part 2A

- Industry profiles (PHS score) were assigned to sites, based upon past industrial activities (more than one industry profile can be assigned per site i.e. former chemical factory & former textiles factory).

  (Note: Industry profiles within GeoKon software were derived from published DoE profiles or created where an appropriate profile was not published. Profiles were assigned scores to reflect contamination risks to land and controlled waters based upon published ranking criteria.)

- Current uses (RSS Score) of the site were assigned using GGP landline (2003) and aerial photography (2000) overlays. Current use categories used for this are defined in Table 3.

  The most conservative use was chosen where several options apply (e.g. farmyard identified as commercial / industrial). If no features were

obvious, CU was determined as Public Access (or Farmland where area has no obvious public access or is in farming area)

(Note: To compensate for boundary uncertainties current use was defined for highest industry profile scoring sites (2b) as the most sensitive land use within a 10 m radius of the site. For all other sites current use was defined as the most sensitive land use within or directly bordering the site.)

- Geokon Stage 1 Prioritisation was determined as the combined score from the site industry profile and its current use (PHS x RSS = stage 1 score).

- Stage 1 prioritisation was refined to incorporate additional protection zones (PZ) determined as potential additional risks to end-users and the environment. Using the MapInfo Software, relevant datasets were queried against the PLU data. Scores were assigned to each search criteria based on the potential increased risk of a Part 2A determination. GeoKon then multiplies this figure by the industry profile receptor scores. Details of the scoring system can be found below:-

  Surface Waters PZ
  Surface water features were taken from the MasterMap layer and queried against the PLU layers. A 10m buffer was applied to take into account boundary discrepancies. Scores are, surface water feature present = 6; no surface water feature present = 2.

  Groundwater PZ
  Presence of a major or minor aquifer as defined by Environment Agency Wales GIS overlay. A 50m buffer was applied to take into account boundary discrepancies. Scores are, presence of a major aquifer = 6; presence of a minor aquifer = 2.

  Other Factor Scores
  In addition to the protection zones, it was decided that additional factors would be applied through the use the 'Other Factor Scores' (OFS) tab within GeoEnviron. This were applied to be consistent with the Council's Contaminated Land Strategy and to also ensure that the sites a range of scores on the prioritisation list. OFS can be found in Table 4.

Table 3 - Current use classifications

Score	Category	Types	Evidence
6	Residential With Gardens	Non-commercial premises with landscape / grass surrounds.	Land-line plan and address points (2003). Aerial photography (2000)
5	Residential Without Gardens	Non-commercial premises with no obvious landscaping / grass.	Land-line plan and address points (2003). Aerial photography (2000).
5	Allotments	Plots (excluding residential gardens) used for non-commercial cultivation (including overgrown plots)	Land-line plan and GGP labels (2003). Aerial photography (2000). Evidence of sheds.
4	Commercial & Industrial	Currently operational commercial or industrial properties / activities Farmyards (excluding farmhouses)	Land-line plan and address points (2003). GGP labels. Aerial photography (2000).
4	School / Hospital Land	Schools and hospitals including nurseries, cottage hospitals. Excluding GP surgeries.	Land-line plan and address points (2003). GGP labels. Aerial photography (2000).
4	Public Open Space	Recreational Areas / Picnic Areas Parks and Playing Fields Athletics tracks Camping / caravan sites Water Features (Fishing etc)	Written labels on GGP Landline Photographic evidence of pitches, playing fields, river banks etc.
4	Vacant Land	Derelict sites (without intact buildings as sites with these will be classed as residential or commercial) Assumes some degree of access	Open ground in or near built-up areas. Reclaimed areas proposed for strategic development (e.g. Coed Ely).
3	Farmland	Livestock or arable	Field patterns on Landline / aerial photography Aerial photos showing livestock Presence of farm buildings (Note Farm yards are to be classed as commercial & industrial end-use or residential end-use where farmhouse is apparent)

2	Public Access	Non Farmland or Recreational areas Forestry Paths / cycleways Road verges Land between roads / railways PROW Church yards	Absence of field patterns, livestock, sports fields. Evidence of paths, tracks, disused railways/tramways. Evidence of public access to site (roads etc)
1	Hardstanding	Car Parks Roads Paved and tarmac areas	Land-line plan and GGP labels (2003). Aerial photography (2000).
0	Outside RCT	Past Land uses close to but outside RCT Boundary (NOTE: sites archived within GeoEnviron)	GGP Boundary

Table 4 – Other Factor Scores

ID	Name	Receptor Type	Score	Comments
OF01	SSSI	Land Use	10	10m Buffer
OF02	Special Area of Conservation	Land Use	10	10m Buffer
OF03	Scheduled Ancient Monument	Land Use	10	10m Buffer
OF05	Source Protection Zone	Ground Water	10	10m Buffer
OF06	Private Water Supply	Human Health	20	250m Buffer
OF07	Site Remediated pre 2005	All	-5	2005 date of Contaminated Land Regime
OF08	Site Remediated post 2005 (Validation Approved)	All	-40	2005 date of Contaminated Land Regime
OF09	Site Remediated post 2005 (Validation NOT Received)	All	-10	2005 date of Contaminated Land Regime
OF10	RQO On-site	Surface Water	20	0m
OF11	RQO <25m	Surface Water	15	25m
OF12	RQO <50m	Surface Water	10	50m
OF13	RQO <100m	Surface Water	5	100m

Appendix 7 -Glossary

Appropriate Person - any person defined by Section 78F of the Environmental Protection Act 1990, who is appropriate to bear the responsibility of effecting the remediation required by the enforcing authority.
Contaminant - a contaminant is a substance which is in, on or under the land and which has the potential to cause harm or to cause pollution to controlled waters.
Class A Person - are those regarded as an appropriate person because they caused or knowingly permitted the substance in question (the pollutant) to be in, on or under the land.
Contaminated Land - is defined by Section 78A of the Environmental Protection Act 1990 as "any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that significant harm is being caused or there is a significant possibility of such harm being caused; or pollution of controlled waters is being, or is likely to be caused."
Contaminated Land Regime - refers to the interaction of Part 2A of the Environmental Protection Act 1990, Statutory Guidance and Regulations issued and is a means by which historical contamination may be dealt with to ensure land is suitable for use.
Controlled Waters - has the same meaning as Part III of the Water Resources Act 1991
Enforcing Authority - means, in relation to Special Sites, NRW and in relation to all other contaminated land the Local Authority in whose area the land is situated.
GIS - Geographical Information System is a computer-based application capable of generating maps and linking records to specific areas of land.
Harm - defined by Section 78A as "harm to the health of living organisms or other interference with the ecological systems of which they form a part and, in the case of man, includes harm to his property".
IPC - Integrated Pollution Control. Legislation introduced by Part I of the Environmental Protection Act 1990 covering the control of emissions to air, land and water from the most polluting industrial processes.
Liability Group – a group consisting of *appropriate persons* who have been identified by the *enforcing authority* as being liable for the cost of remediation relating to a *significant contaminant linkage*
Orphan Linkage – is defined as a *significant contaminant linkage* for which there are no members of the *liability group.* This may occur where: (a) the *pollution linkage* relates solely to the pollution of *controlled waters* (and not to *significant harm)* and no *Class A person* can be found; (b) no *Class A* or *Class B persons* can be found; or (c) those who would be otherwise liable are exempted by one of the statutory provisions.
Orphan site - where the *enforcing authority* cannot find *Class A persons or Class B persons* in respect of all of the *significant contaminant linkages* for the site*,* there will be no *liability group* to bear the cost of *remediation*.
Pathway - is one or more routes or means by, through, which a receptor is being exposed to, or affected by, a contaminant, or could be so exposed or affected.

Pollutant Linkage - means the relationship between a contaminant a pathway and a receptor.

Receptor - a living organism, a group of living organisms, an ecological system, or a piece of property which is in the categories listed by Table A of the Welsh Statutory Guidance (see Appendix 1).

Remediation - is defined in Section 78A of the Environmental Protection Act 1990 as,

1. "the doing of anything for the purpose of assessing the condition of the contaminated land in question; any controlled waters affected by that land: or any land adjoining or adjacent to that land
2. the doing of any works, the carrying out of any operations or the taking of any steps in relation to any such land or waters for the purpose of a) preventing or minimising, or remedying or mitigating the effects of, any significant harm, or pollution of controlled waters, by reason of which the contaminated land is such land; or,
3. The making of subsequent inspections from time to time for the purpose of keeping under review the condition of the lands or waters."

Remediation Notice - has the meaning given by Section 78E of the Environmental Protection Act 1990 and is a notice served on appropriate persons by the enforcing authority specifying what the persons are to do by way of remediation and the periods within which he is required to do each of the things specified.

Risk Assessment - the definition of contaminated land is based upon the principles of risk assessment. Risk is defined as the probability, or frequency, of occurrence or a defined hazard (for example, exposure to a property of a substance with the potential to cause harm) and; the magnitude (including the seriousness) of the consequences.

Significant Harm - Welsh Statutory Guidance requires that the local authority should regard as significant only harm which is both; to a receptor of a type listed in Table A of the Guidance (see Appendix 1) and within the description of harm specified for that type of receptor in that table.

Special Site - The Contaminated Land (Wales) Regulations 2001, Regulations 2 and 3 and Schedule 1 identify those sites requiring determination as Special Sites.

Appendix 8 References

Legislation

Environment Act 1995

Environmental Protection Act 1990, Part 2A, s.78A - s.78YC.

Contaminated Land (Wales) Regulations 2006- National Assembly for Wales

Contaminated Land Statutory Guidance for Wales 2012 – Welsh Government
Radioactive Contaminated Land (Modification of Enactments) (Wales) Regulations 2006

Guidance

Category 4 Screening Levels (C4SLs) – Welsh Government Statement 2014

Assessment of the Risks to Human Health from Land Contamination; an Overview of the Development of Soil Guideline Values and Related Research CLR 7- Department of the Environment, Food and Rural Affairs and the Environment Agency

Contaminants in Soil; Collation of Toxicological Data and Intake Values for Humans CLR9 - Department of the Environment, Food and Rural Affairs and the Environment Agency

Contaminated Land Inspection Strategies, Technical Advice for Local Authorities - Department of the Environment, Transport and the Regions and the Environment Agency.

Contaminated Land Part 2A, Local Authority Guide to the Application of Part 2A of the Environmental Protection Act 1990 - Environment Agency 2001.

Environment Agency Technical Advice to Third Parties on the Pollution of Controlled Waters for Part 2A of the Environmental Protection Act 1990 - Environment Agency.

Investigation of Potentially Contaminated Sites - Code of Practice (BS 10175 : 2011) - British Standards Institute

Land Contamination: A Guide for Developers, WLGA/EA Land Contamination Working Group, February 2012

Potential Contaminants for the Assessment of Land (Contaminated Land Report (CLR) 8) - Department of the Environment, Food and Rural Affairs and the Environment Agency

Welsh Local Authority Guide to the Application of Part 2A of the Environmental Protection Act 1990, WLGA 2002.

Development Plans

The Mid Glamorgan Local Plan for Limestone Quarrying as affecting Rhondda Cynon Taf, adopted 1997.

The Mid Glamorgan (Rhondda Cynon Taf County Borough) Replacement Structure Plan, adopted 1999.

Rhondda Local Plan (Including Waste Policies), adopted 1998.

Taff Ely Local Plan (Including Waste Policies), adopted 2003.

Cynon Valley Local Plan (Including Waste Policies), as proposed to be modified.

Rhondda Cynon Taf Local Development Plan (up to 2021), adopted March 2011

Bibliography

British Regional Geology South Wales, Natural Environment Research Council Institute of Geological Sciences, HM Stationary Office 1970.

Communicating Understanding of Contaminated Land Risk, SNIFFER 1999

Community Involvement in ATSDR's Public Health Assessment Process, Agency for Toxic Substances and Disease Registry (ATSDR), June 2002.

Derelict Land and Land Reclamation in the Borough of Cynon Valley 1980-1985.

Desk Reference Guide to Potentially Contaminative Land Uses, Paul Syms, Sheffield Hallam University, published by ISVA in association with The Royal Institute of Chartered Surveyors and the Chartered Institute of Environmental Health. ISBN 0 9029 1303 4.

Development of Contaminated Land - Professional Guidance, Institute of Environmental Health Officers, Aspinwall and Co. Ltd.

Development of Land Affected by Contamination: A Guide for Developers, Welsh Local Government Association and Environment Agency, 2012

Environmental Protection Act 1990 Part 2A: Contaminated Land. Consultation on Draft Statutory Guidance on Contaminated Land, National Assembly for Wales.

Guidance for the Safe Development of Housing on Land Affected by Contamination, Environment Agency and NHBC R&D publication 66, 2000

Industrial Britain, South Wales, Graham Humphrys, David and Charles: Newton Abbot 1972.

Industrial South Wales 1750-1914, Essays in Welsh Economic History, Edited by W.E. Minchinton, Frank Cass and Co. Ltd,1969.

Industry Before the Industrial Revolution, William Rees, Cardiff University Press, 1969.

Pilot Survey of Potentially Contaminated Land in Cheshire - A Methodology for Identifying Potentially Contaminated Land Sites, Department of the Environment July 1990.

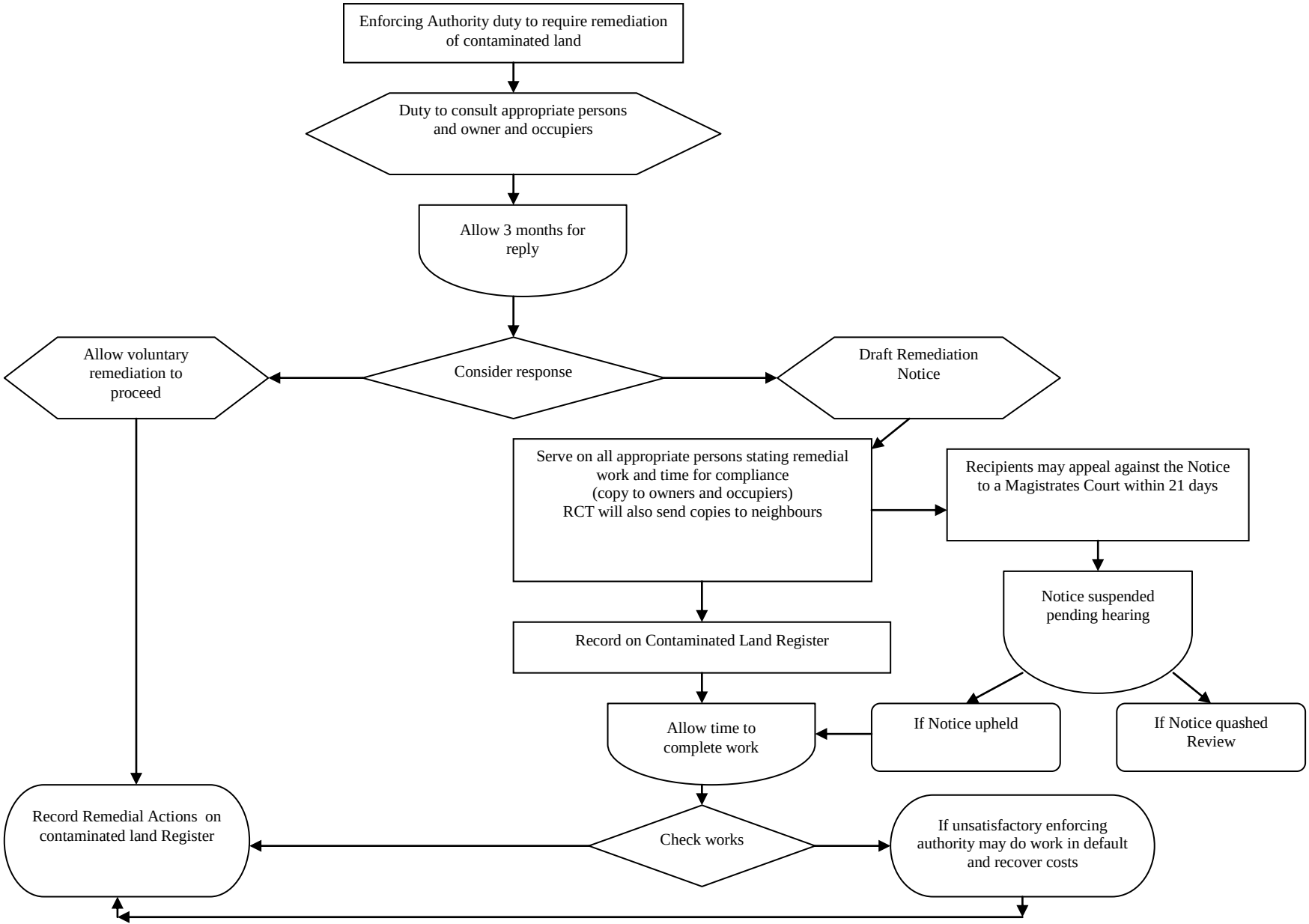
Planning Policy Wales, 2002

Rhondda Cynon Taf Performance Plan 2001 - 2002

The Rhondda Valleys, E.D.Lewis, University College Cardiff Press, 1963.

The WDA Manual on the Remediation of Contaminated Land, WDA 1993.

Appendix 9 Simplified Procedure for Service of Remediation Notices



Appendix 10 List of Consultees on CLIS 2004

Statutory Consultees

Environment Agency Wales
CADW - Welsh Historic Monuments
Countryside Council for Wales (CCW)
Welsh Development Agency
Food Standards Agency

Health Advisors

National Public Health Service
Local Health Board

Neighbouring Authorities

Brecon Beacons National Park
Bridgend CBC
Caerphilly CBC
Cardiff CBC
Merthyr CBC
Neath Port Talbot CBC
Vale of Glamorgan CBC

Local Members of Parliament and Assembly Members

Ann Clwyd MP
Dr Kim Howells MP
Chris Bryant MP
Huw Irranca-Davies MP
Jane Davidson AM
Christine Chapman AM
Leighton Andrews AM

Elected Members of Rhondda Cynon Taf County Borough Council

Brian Arnold	Geraint R Davies	Jonathan Huish	Aurfron Roberts
Richard J Ashton	Jim Davies	Shah Imtiaz	Karen Roberts
Paul Baccara	Pauline Jarman	Paul James	Russell Roberts
Graeme Beard	Emlyn Jenkins	Idris Jones	David J Rogers
Stephen Belzak	Raymond Davies	Jill M Jones	Graham Stacey
Terry Benney	John David	Katrina Jones	Victor C Thomas
Robert Bevan	A.L. Davies, MBE	Larraine Jones	Roger Turner
Michael Brittain	Annette Davies	Layton Jones	Elizabeth A Walters
Gordon Bunn	Gerwyn Evans	Lionel Langford	Jane S Ward
Judith Burford	Kathleen Evans	Lisa Lewis	Dennis R Watkins
Yvonne Caple	Bryan Fitzgerald	Philip Lewis	Maureen Webber
Bernard P Channon	Michael Forey	Christina Leyshon	Islwyn Wilkins
Anthony Christopher	Robert G Fox	Robert B McDonald	D Ifor Williams
John Codd	Bernard J Gooch	Syd Morgan	Julie Williams
Henry J Cox	Stuart Gregory	Rita Moses	Julie A Williams
John Daniel	Eudine Hanagan	Gordon R Norman	Vyvyan T Williams
Annette Davies	Edward L Hancock	Neil O'Farrell	Clayton Willis
Cennard Davies	Adrian E Hobson	Gregory M Powell	Rebecca L Winter
Eurwen Davies	Charles Hughes	Michael J Powell	

Community Councils in Rhondda Cynon Taf

Gilfach Goch Community Council
Hirwaun Community Council
Llanharan Community Council
Llanharry Community Council
Llantrisant Town Council
Llantwit Fadre Community Council
Pontyclun Community Council
Pontypridd Town Council
Rhigos Community Council
Taffs Well Community Council
Tonyrefail Community Council
Ynysbwl, Coedycwm Community Council

Rhondda Cynon Taf County Borough Council Officers

The Group Director of Environmental Services
The Director of Development and Regeneration
The Building and Development Control Co-ordinator
The Head of Estates Management
Land Reclamation and Engineering Manager
The Divisional Director of Legal Services
Co-ordinators of Area Regeneration Partnerships

Other Interested Community Groups

Nantygwyddon Liaison Group (including RANT)
Brofiscin Liaison Group
Friends of the Earth

The draft CLIS was also posted on the Council's web site for access by any interested party.