TRAFFORD

METROPOLITAN BOROUGH

Contaminated Land Inspection Strategy 20012-2015

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CONTAMINATED LAND INSPECTION STRATEGY

Executive Summary

Local Authorities in England have a duty to identify contaminated land within their boundaries and ensure that it is managed in an appropriate manner. This Contaminated Land Inspection Strategy defines how this responsibility will be implemented in Trafford Borough Council's district area. Part IIA of the Environmental Protection Act legislatively prescribes what local authorities must achieve.

The main objectives of the strategy is to identify and remove unacceptable risks to human health and the environment from contaminated land and seek to bring damaged and derelict land back into beneficial use. Whilst doing this, it must be ensured that the cost burdens faced by individuals, companies and society as a whole are proportionate, manageable and economically sustainable.

The strategy outlines the procedures required to inspect the Borough focusing on:

- Desk based studies,
- Information management,
- Inspection and identification of contaminated land,
- Prioritisation of contaminated sites;
- Detailed inspection of prioritised sites
- Risk assessment
- Communication

The benefits of the contaminated land regime are far reaching. It provides a proactive mechanism for addressing land contamination and supports existing methods for preventing the contamination of land which include Integrated Pollution Control, Pollution Prevention and Control and Waste Management Licensing.

In addition, the planning process provides a platform for ensuring that developments are constructed on land that is 'suitable for use'.

The implementation of this strategy will help to protect and promote a safe and sustainable environment for the Trafford Community

1.0 INTRODUCTION AND LEGISLATIVE FRAMEWORK

1.1 Background

The presence of contaminated land is an example of the failure of society in the past to move towards sustainable development. The harm that may be caused by contamination can be far reaching affecting human health and the wider environment.

In Britain, it is estimated that up to 200,000 hectares of land may be contaminated, covering an area larger than Greater London. The implementation of the new legislation will attempt to bring these areas back into a satisfactory condition for appropriate site usage or development to take place.

The Government has set a 60% target for the proportion of new housing to be developed on "brownfield" sites. The regulation of contaminated land is an important catalyst in the regeneration process.

The contaminated land regime is founded on a set of principles the most important of which are the "suitable for use" standard of remediation and the "polluter pays" principle for the allocation of liability.

Central to the regime is the importance of risk assessment and risk management. Successful implementation of the regime will require extensive consultation, co-operation and partnership between all involved in dealing with contaminated land problems, together with a culture of openness and transparency.

1.2 Legislative Framework

The Contaminated Land regime came into force on the 1st April 2000. This enacted Part IIA of the Environmental Protection Act 1990. Section 57 of The Environment Act 1995 inserted sections 78A to 78YC (Part IIA) into the Environmental Protection Act 1990 to introduce specific provisions relating to contaminated land.

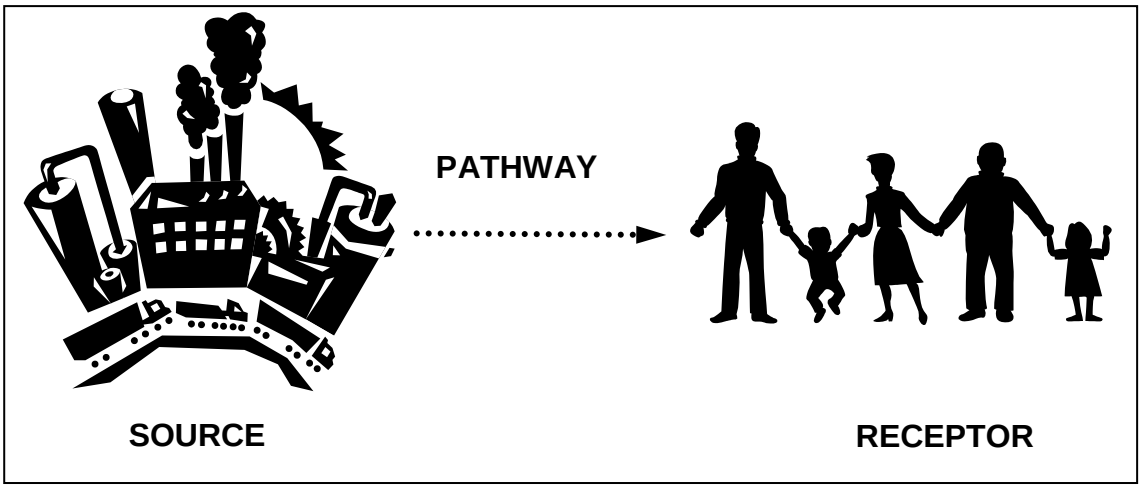
Section 78A(2) of the Environmental Protection Act 1990 defines contaminated land as:

> *"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 –*
>
> *a) significant harm is being caused or there is a significant possibility of such harm being caused; or*
> *b) pollution of controlled waters is being, or is likely to be, caused."*

The associated guidance contains two tables identifying the descriptions of significant harm or significant possibility of significant harm regarding the risks to humans, ecological systems, all animal and crop effects and all building effects. These tables are included in Appendix A of this strategy.

The definition of contaminated land is based upon the principles of risk assessment. Risk is defined in the guidance as the probability or frequency of a defined hazard and the likely magnitude of the consequences.

In applying the definition of contaminated land the Local Authority must identify a “source”, a “pathway” and a “receptor” on the site as defined in the statutory guidance. If this pollutant linkage does not exist the land cannot be designated as contaminated land.



1.3 The Role of Trafford Metropolitan Borough Council

Local Authorities have been given the primary regulatory role under Part IIA.

Under the regime Trafford Metropolitan Borough Council (the Council) has a duty to:

- Inspect its area to identify potentially contaminated land.
- Carry out detailed inspection of potentially contaminated land sites
- Determine whether any particular site is contaminated land through identification of pollutant linkages and whether there is a significant possibility of significant harm being caused.
- Apportion liabilities.
- Effect the remediation of contaminated land, through voluntary action, the planning process or through serving a remediation notice.
- Maintain a public register of contaminated land detailing information about notices, appeals, remediation statements and all items specified in section 78R of the Environmental Protection Act 1990.
- Recover costs and relieve hardship.

Use of the planning process to effect remediation of contaminated sites is separate from the part IIA regime.

1.4 Objectives of the Contaminated Land Strategy

The main objective of the strategy is the removal of unacceptable risks to human health and the environment. This strategy document will provide a working framework for identifying, assessing and remediating contaminated land in proportion to the risk identified.

The objectives of this strategy are to:

- Demonstrate how the Council is going to meet the requirements of Part IIA of the Environmental Protection Act 1990 in terms of policy and practice.
- Reduce the risk of harm to residents of the borough and assist in bringing brownfield sites back in to a positive use.
- Describe how potentially contaminated land sites are to be investigated, assessed and dealt with.
- Describe the mechanisms for interaction between relevant bodies, including enforcement responsibility, information transfer and procedures.
- Set timescales and monitor progress.

1.5 Achievements So Far

The following achievements have been realised since the publication of the initial strategy in 2001

- The strategic inspection of the Borough was completed within 60 months of adoption of the strategy.
- Potentially contaminated sites based on former industrial use were identified by April 2002.
- All Council owned land was reviewed by July 2002.
- Prioritisation of known potentially contaminated sites into high, medium and low risk was completed by July 2002.
- In total 1256 potentially contaminated land sites in Trafford have been prioritised.
- Over 250 site investigation and remediation documents, for contaminated land sites of concern have been reviewed by Trafford MBC's pollution section.
- Over 100 contaminated land sites have been remediated since 2001, through development control and work around Part IIA of the EPA
- Trafford MBC have contributed to joint work on contaminated land guidance across Manchester through MAPAC.
- The pollution service has reached the local indicator target for remediated sites since this target was agreed in 2006. The current target for 2012/13 is for 18 sites to be remediated in the borough. This target can be reached through a combination of developments and Part IIA investigations.

1.6 The Public Register

The Council is required to maintain a public register that is intended to provide a full and permanent record of all regulatory action taken by the Council in respect of remediation of contaminated land. The Environment Agency will

hold a similar register detailing their regulatory action on Special Sites. The Council will hold information relating to non-statutory land, which has been remediated to "suitable to use" on the Public Protection Department's APP database.

The Council's register will contain

- remediation notices served by the Council,
- remediation statements or remediation declarations under section 78H,
- appeals against remediation notices and against charging notices,
- notifications of what has been done by way of remediation by a person served with a remediation notice or who is required to publish a remediation statement,
- notification given by owners or occupiers of what has been done on land by way of remediation,
- notices by the Council and the Secretary of State effecting designation of land as a Special Site,
- notices terminating the designation of land as a Special Site,
- convictions for prescribed offences,
- details of site specific guidance issued by the Environment Agency under section 78(V)1; and
- instances where the Council is precluded from serving a remediation notice because of the application of other statutory controls.

The purpose of the register is not intended to be a register of sites, which are, or may be contaminated as such. It is a register of the enforcement history of the site once a remediation notice has been served, or in the case of Special Sites their prior designation.

It is important to note that entry into the register relating to notifications of claimed remediation in no way represents any endorsement or confirmation by the Council that remediation measures have been carried out, or that the land is no longer contaminated.

A copy of the register will be kept within Environmental Protection Services at Trafford Town Hall, Talbot Road, Stretford, and will be available on request.

1.7 The Role of the Environment Agency

The Environment Agency has the following roles under the contaminated land regime:

- to assist local authorities in identifying contaminated land, particularly in cases where water pollution is involved
- to provide specialist guidance and data on groundwater in Trafford.
- to carry out the inspection and remediation of potential special sites;
- the duty to act as enforcing authority on special sites;
- the production of the State of Contaminated Land Report;
- the Agency assists local authorities by providing site specific guidance and information on detailed quantitative risk assessment (for assessing significant harm).

The Council has a duty to provide information to the Environment Agency (the Agency) on all declared statutory contaminated land sites.

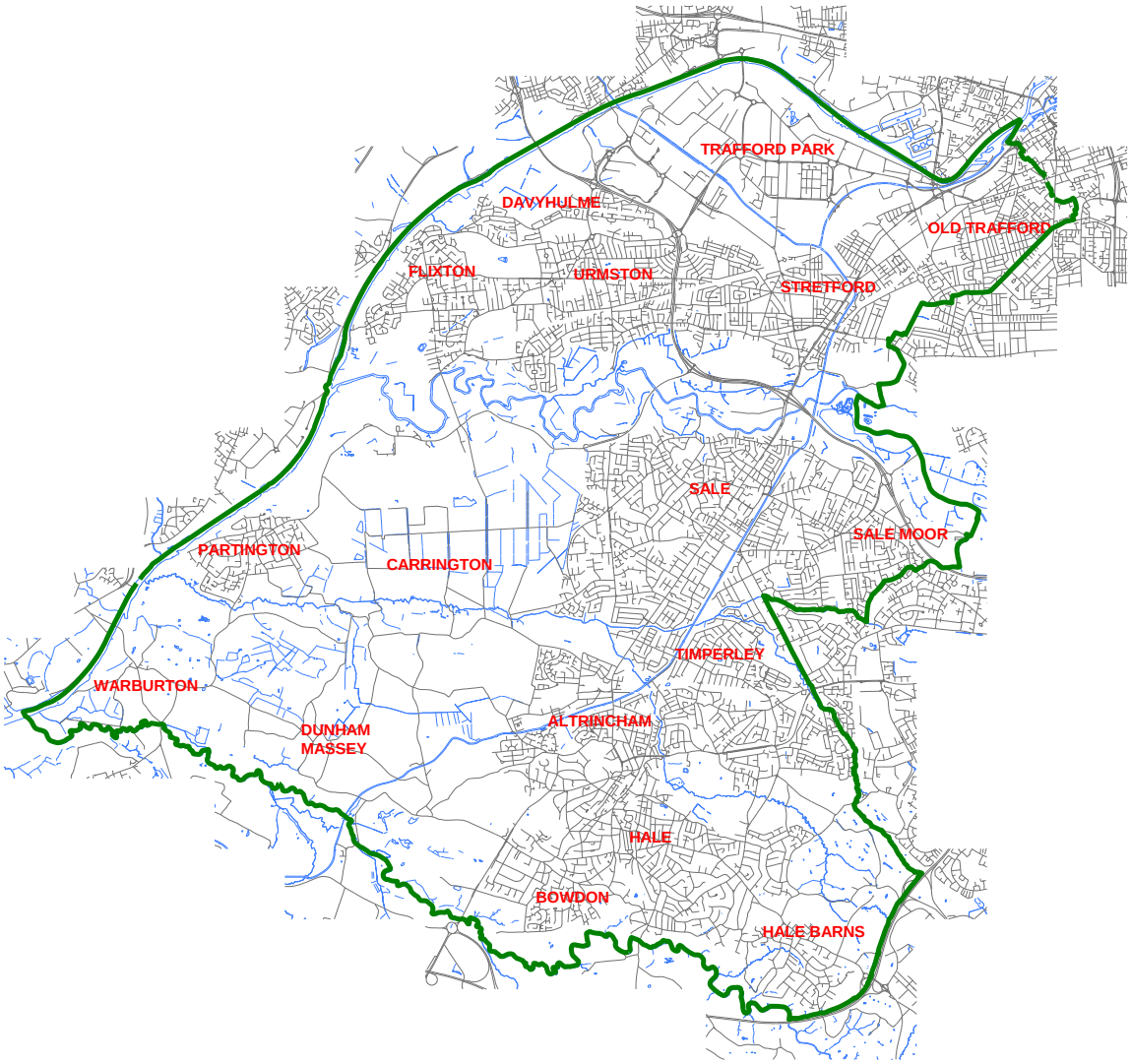
1.8 Special Sites

Part IIA of the Environmental Protection Act creates a category of contaminated land called 'Special Sites'. For any Special Site, the Environment Agency, rather than the Local Authority is the enforcing Authority.

Descriptions of the types of land which are required to be designated as Special Sites are set out in the Contaminated Land (England) Regulations 2000. The actual designation of a Special Site cannot begin until the land is formally identified as Contaminated Land by the Local Authority. If the Council considers that a site should be designated as a 'Special Site' it has a duty to inform the Agency. If the Agency agree on the designation then the responsibility for regulation passes to them.

Examples of Special Site status include sites where explosives are being manufactured, land occupied by the Ministry of Defence, land on which former Integrated Pollution Control prescribed processes have been carried out and sites contaminated with waste acid tars.

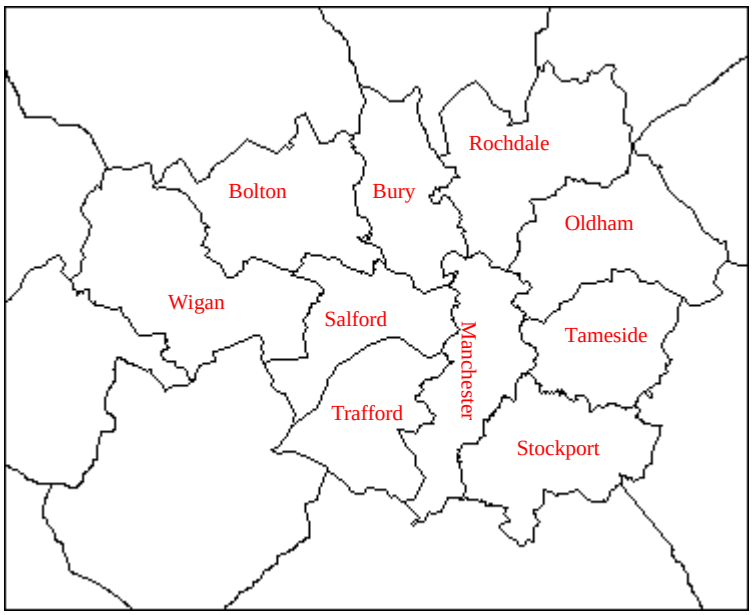
2.0CHARACTERISTICS OF TRAFFORD



2.1 Background

Trafford Metropolitan Borough Council is one of the ten councils in Greater Manchester. It is situated to the south and west of the regional centre of Manchester and to the west of Manchester Airport. The Manchester Ship Canal forms the boundary to the north and west, whilst the River Bollin forms the southern boundary.

Trafford is one of the smaller boroughs within the conurbation, covering an area of 10,600 hectares (40 square miles). It has a population of approximately 220,200. The Census was undertaken in May 2001 and will provide more detailed information on Trafford.



The Borough has a long history of industry and business with established centres in Trafford Park in the north, Broadheath in the south and Carrington in the west.

Much of the Borough is residential but there are substantial green open spaces including Dunham Park and the Bollin and Mersey Valleys. There is a regional shopping complex, The Trafford Centre, as well as four town shopping and commercial centres (Altrincham, Sale, Stretford and Urmston).

Trafford is well served by an extensive transport infrastructure comprising of road, rail, trams and Manchester Airport. The M60 orbital runs through the Borough whilst the M56 and M62 border the Borough. The Metrolink tramline runs from Manchester City Centre through to Stretford, Sale and Altrincham and will soon be extended through Trafford Park to the Trafford Centre.

2.2 Industrial Development of Trafford

Over time, a succession of industrial occupiers has contributed to the levels of contaminants throughout the Borough. It is important to have a clear view of historical activities in order to identify potential sources of contamination.

Throughout the nineteenth century the economy of what is now Trafford was dominated by agriculture. The village of Stretford and the market town of Altrincham were the only substantial urban centres during the late eighteenth and early nineteenth centuries.

The first factory to be established in the Trafford area was a paper mill in Partington on the River Mersey in 1755. Altrincham was the centre of early factory based industry in the late eighteenth century and the beginnings of the nineteenth century with a thriving domestic and factory based textile industry.

Industrialisation of Trafford began in the late nineteenth century with the construction of the Manchester Ship Canal, and the influence of two landed families: the Earl of Stamford and the de Trafford family. The first step was in the 1880s when the Earl of Stamford leased land in Broadheath for machine tool and associated industry.

The Manchester Ship Canal was opened in 1894 stretching from Manchester city centre to Eastham Locks near Ellesmere Port forming a purpose built route to the sea. Construction began in 1888, canalising the rivers Irwell and Mersey. 54 million cubic yards of soil were excavated; much of this was dumped locally in the Trafford area.

Following the opening of the Manchester Ship Canal the de Trafford family sold its estate in 1896 for industrial use. Early industrial development was slow until 1899 when the British Westinghouse Electric Company was established.

The industrial areas of Broadheath and Trafford Park flourished until after World War II and then began to decline in the 1960s. Trafford Park is prospering again with the move towards light industry and warehousing. There are now over 1,000 businesses in Trafford Park employing more than 40,000 people.

The third industrial area in Trafford was established at Carrington and Partington after World War II with the building of a power station and petrol chemical complex. This area is currently undergoing rejuvenation with current proposals for new power plants and intermodal transport facilities.

2.3 Redevelopment History and Controls

The Borough of Trafford is continually undergoing redevelopment. Current hotspots for redevelopment are the southern half of the Borough and Trafford Park. Developers are placing the Council under significant pressure to release new land, but a balance must be kept to preserve areas of greenbelt by encouraging the use of brownfield sites. This is maintained through the Unitary Development Plan (UDP) process.

2.4 The Role of Planning Services

The presence of contamination can affect or restrict the beneficial use of land but development can present an opportunity to deal with it.

Government guidance on the relationship between planning and pollution control is contained within **Planning Policy Statement 23** issued in 2004. Annex II of this document deals specifically with contaminated land.

PPS 23 reflects the Government's 'suitable for use' approach for reusing contaminated land. It states that the onus is on the developer to provide information on potential contamination, and that specific remedial measures should be a condition of any planning permission.

Any consideration of the quality of land, air or water and potential impacts arising from development, possibly leading to impacts on health, is capable of being a material planning consideration, in so far as it arises or may arise from or may affect any land use;

The majority of potentially contaminated land sites in the district will be dealt with through development control as contamination is a material consideration when determining a planning application under the Town and Country Planning Act 1990.

Detailed guidance on is provided in annex II of Planning Policy Statement (PPS) 23 *Planning and Pollution Control.* It expands on the policy considerations the Government expects Regional Planning Bodies (RPBs) and Local Planning Authorities (LPA) to have regard to in preparing policies in development plans and taking decisions on applications in relation to development on land affected by contamination. It gives necessary legislative and technical background and some examples of good practice to assist authorities in implementing the policies contained in PPS23.

2.5 Protected Habitats

Whilst considering the process of identifying contaminated land, it is important to take account of protected habitats as a category of 'Receptor'. Appendix A describes the definition of harm to ecological systems.

Trafford, like most urban areas is covered by only a small percentage (6%) of semi-natural habitats. It is important that these habitats are not lost and that where possible more wildlife areas are created.

There are two Sites of Special Scientific Interest (SSSI), Dunham Park, and Brookheys Covert in the Borough. These sites have been designated by English Nature and are protected by the Wildlife and Countryside Act 1981 as nationally important sites.
The Greater Manchester Ecology Unit designates those sites, which are regionally important at a district or local level. These Sites of Biological Importance (SBI) are graded A, B or C to denote their level of significance. There are 48 SBIs in the Borough.

Following a Phase 2 Habitat Survey in 1991 the Council designated over 50 sites as Local Nature Conservation Sites, which have ecological interest within their immediate locality. Sites of Biological Importance and Local Nature

Conservation Sites are protected by policies and proposals in the Council's Unitary Development Plan.

Trafford Metropolitan Borough Council is one of the six Greater Manchester Authorities, which are part of the Red Rose Community Forest. This aims to create a forest of linked woodland and copses to provide areas for wildlife, recreation and timber production. A number of individual projects are being undertaken to achieve this aim.

In order to preserve and protect wildlife as part of the natural landscape, the Council has produced a Nature Conservation Strategy that has been adopted as Supplementary Planning Guidance. This Strategy will inform the process of Local Agenda 21 and will also be used in conjunction with the Council's Landscape Strategy.

2.6 Protected Buildings and Areas

It is important to note that buildings and structures can suffer harm from contaminants, or their usage impaired. Appendix A contains a definition of significant harm to property in the form of buildings.

There are almost 300 listed buildings and 21 Conservation Areas in Trafford. These represent a substantial element of the Borough's built heritage. In addition the Council maintains a Sites and Monuments Record to protect and enhance archaeological remains in the Borough. It should be noted that a significant number of listed buildings in the Borough are industrial buildings.

More specifically there is a Scheduled Ancient Monument and a Grade II Historic Park and Garden at Dunham Massey. Also parts of the Borough are included in the proposed World Heritage Site.

2.7 Geology

Geology has an important role to play under the new regime. A good understanding of the geology will lead us to determine possible pathways and receptors for pollutants from areas of contaminated land.

2.7.1 Drift Geology

The majority of the drift in the Borough is made up of late glacial flood sand and gravels. In the centre of the Borough these run from Partington and Carrington across to Sale in the east and Timperley further south. To the north of this area the glacial flood deposits are dissected by recent alluvium deposits along the River Mersey. To the north of the Mersey the glacial flood plains extend eastwards from Davyhulme across to Stretford and northwards to Trafford Park. Boreholes, which intercept these sand and gravel deposits, illustrate varying depths of between 3 – 95 ft.

The inherent properties of sand and gravel means that they do qualify as a potential pathway under the new regime. Moderate to high permeability with low attenuation characteristics will allow most contaminants to pass through this geological formation relatively quickly. The proximity of these deposits to

the River Bollin and also to the River Mersey would identify these as potential receptors.

More recent deposits of Shirdley Hill Sand are also found around the Partington area and north of Durham Massey surrounding Carrington Moss, which is predominantly covered by peat deposits.

Boulder clay covers a relatively small proportion of the Borough. The main deposits are around Bowdon and Hale. From the eastern side of Altrincham a large area of boulder clay runs through the Borough towards the southeast border. The large deposits lie on the eastern side of the Timperley Mobberly fault which runs downs the eastern side of the borough from north to south. Boreholes indicate that clays are found at depths of 1-12 ft and are described as red and also brown. Another distinct deposit of boulder clay is found in the north of the Borough in Old Trafford these surround a sand and gravel deposit approximately 1 mile long and a maximum of 1000 ft wide. Boreholes indicate that drift deposits in the area are found from 30-40 ft depth. Second edition geological maps (scale 1:10560) indicate that clay has been worked in the borough with evidence of brickworks.

Boulder clay has important properties for resisting the movement of contaminants from near surface deposits to groundwater receptors as it generally has low permeability with good attenuation characteristics. However, boulder clay can also contain fissures and sand layers (the latter being evident in the Borough) these have much higher permeability and may be in hydraulic continuity with local streams and rivers. Hence it would appear that boulder clays in the Borough might also serve as a potential pollutant pathway allowing migration of surface contaminants.

Recent postglacial action has generated large alluvial deposits in the Borough, which can be clearly identified as running along the course of the River Mersey. These deposits are mainly sandy gravel and are in direct hydraulic continuity with local streams and rivers. They have minimum attenuation characteristics and act as both potential pathways and pollutant linkages.

Peat deposits are located within the Carrington Moss area located near the centre of the Borough. These are shown by borehole records to run to light brown mossy peat passing down into more compact dark brown peat. Peat deposits consist of accumulated sphagnum moss, which are generally saturated and have low values of hydraulic conductivity. The properties of peat would indicate that it would not be a preferential pathway for contaminants; however, peat deposits do provide natural sources of both methane and carbon dioxide that can amount to contamination within itself.

2.7.2 Solid Geology

The geology has a mainly south-westerly swing and faulting in the region is relatively light and uncomplex.

The oldest rocks in Trafford are the Upper Mottled Sandstones of the Sherwood Sandstone Group from the Triassic period. These cover the north of

the Borough from Davyhulme across to Stretford and in the central region around Carrington.

More recent Keuper Sandstone, still of the Sherwood Group, covers a west - east strip of the Borough's eastern border above Sale. Below the centre of the Borough lies the majority of this group; this nearly runs right across in a south-easterly direction from Partington to Timperley. A smaller outcrop of this group also occupies the southwest border of the Borough.

Lower Keuper Marl, also of the Mercia Mudstone Group, lies along the southern border of the Borough. This runs from the south west corner around Warburton to Halebarns and to the east of Altrincham in the south east corner of the Borough.

An area of Lower Keuper saliferous band of the Mercia Mudstone Group runs parallel to the younger band of Keuper Sandstone, which runs across the Borough. Another area of this group lies along Sale and Brooklands.

2.8 Hydrogeology

The understanding of the hydrogeological processes that occur within the groundwater of the Borough is essential in order to model and predict, with some confidence, the direction and extent of potentially contaminated groundwater arising from contaminated land.

The Environment Agency has classified the solid and drift geology of the borough into different categories of hydrogeological properties and produced a Groundwater Vulnerability Map.

2.8.1 Major Aquifers

The major aquifer within the Borough is the Permo-Triassic sandstone series (including the Sherwood Sandstone Group). The sandstone underlies the majority of the Borough, particularly in the northern and central areas.

The sandstone is part of a much larger outcrop, which forms the Manchester and East Cheshire aquifer unit. This aquifer unit is a major groundwater resource, of strategic importance to both industrial and public water supply. A concentration of major industrial abstractions is located at Trafford Park and was, historically an area of over abstraction resulting in falling groundwater levels and the up flow of saline water from depth. The situation is improving as there has been a reduction in demand, but there are still quality concerns and so a restriction on new abstractions in Trafford Park is in force.

None of the industrial sources within the Borough have designated Source Protection Zones, however, there is a public supply source just outside the boundary at Lymm for which the Zone III extends into the Borough. In addition to providing public and industrial water supply, groundwater within the sandstones provides base flow to the River Mersey.

There are some localised areas of sandstone exposure within Trafford and these, together with areas of thin or permeable drift cover form areas for

recharge. Such areas occur, for example, around Carrington where the groundwater will be particularly vulnerable to pollution by industrial or agricultural activities. In locations such as the south-eastern corner of the Borough, where the sandstone is overlain by thickly developed and laterally extensive low permeability clays, aquifer recharge will be limited and the groundwater will be less vulnerable to pollution.

2.8.2 Minor Aquifers

Minor aquifers within the Borough boundaries are limited to the more permeable unconsolidated drift (superficial) deposits; there are no solid rock minor aquifers within Trafford.

In the central and northern parts of the Borough there are extensive deposits of fluvio-glacial sand and gravel and alluvium. Glacial sand and gravel is found around Dunham, Altrincham and Halebarns whilst alluvium and terrace deposits are found along the watercourses in the Borough, particularly the River Mersey and the River Bollin. Additionally, significant deposits of blown sand occur south of Carrington and Partington and west of Broadheath. The drift deposits often occur as complex or mixed sequences and can be classified as minor aquifers in their own right with some potential for localised exploitation. Although these deposits may reduce the vulnerability of the underlying aquifer, where present, they should be considered as capable of transmitting water to it.

Groundwater levels in the drift deposits will generally be close to ground level with flow ultimately towards surface waters. Groundwater quality in the drift deposits is variable and may be highly susceptible to surface pollution.

2.8.3 Non-Aquifers

The non-aquifer unit in the Trafford borough is the Triassic Mercia Mudstone Group, which underlies the southern part from Warburton to Altrincham. It should be noted that the Mercia Mudstone Group does contain siltstone layers, solution breccias and shallow/weathered zones, which will allow for some limited groundwater movement and provide some limited groundwater storage. The boundary between the Mercia Mudstone Group and the Sherwood Sandstone Group is gradational (Tarporley Siltstone Formation) and often contains a large percentage of sandstones and so can act as a minor aquifer.

Where low permeability strata such as boulder clays are thickly developed and laterally extensive they may be considered as non-aquifers.

2.8.4 Groundwater Issues

The need to protect Groundwater Quality in Trafford Park was identified in the Agency's Croal/Irwell Local Environment Agency Plan (consultation draft) 1998. The Permo-Triassic sandstone aquifer, which underlies the Trafford Park area, was over exploited until the 1960s when licensing controls on abstractions were introduced. Since the 1980s there has been a decrease in the number of

abstractions and the quantity of abstractions, but the groundwater quality near the surface is poor.

2.9 Hydrology

Surface waters can be both a receptor and a pathway. It is the statutory duty of the Environment Agency to protect and improve these controlled waters (including groundwater) within England and Wales.

2.9.1 River Quality

The main river within the Borough is the River Mersey. This flows westward across the district and joins the Manchester Ship Canal at Irlam Weir. The River Bollin forms the southern boundary. The remaining watercourses in the Borough are brooks.

The General Quality Assessment scheme (GQA) is the Environment Agency's national method for classifying water quality in rivers and canals. This classifies stretches of rivers into six grades ranging from Very Good to Bad and is detailed in Appendix B.

The quality of the watercourses within the Borough ranges from Fairly Good to Poor. However, most stretches have shown improvements over the last five years. In several cases the poor quality of water has been attributed to wrongly connected surface water drains, unsatisfactory combined sewer overflows and contaminated surface water discharges. These are all being addressed by the Environment Agency and United Utilities (formerly North West Water).

The River Mersey is classified as Fair and the cleanest stretch of brook is Fairywell Brook. The poorest stretch of brook is Sinderland Brook between Altrincham Sewage works and the Manchester Ship Canal.

The Agency also sets non-statutory water quality objectives for all rivers and canals. These River Quality Objectives (RQOs) are used for the planning and improvement of river quality. They can provide the basis for setting consents to discharge of effluent into rivers. The scheme comprises of five classes that reflect the chemical quality requirements of aquatic flora and fauna. These classes are described in Appendix B.

It should also be noted that besides the biological and ecological quality of surface waters sensitive receptors such as fisheries and abstraction points must also be considered. The Agency has provided information on the location, use and quality of these receptors. Although the Borough of Trafford has only a relatively small number of surface abstraction points and fisheries they should not be overlooked.

2.9.2 Canals

The Bridgewater Canal cuts through the Trafford region, flowing through Altrincham, Sale and Stretford. The Agency has classified it as Good/Fairly Good through the Borough.

The Manchester Ship Canal forms the northern and western boundary of the Borough. It has been described as one of Europe's most polluted stretches of water, however the situation is improving. Until 1997 the Manchester Ship Canal was classified as bad, it is now classed as moderate.

An issue of concern along the Manchester Ship Canal is the aesthetic effect of effluent from the Davyhulme Sewage Treatment Works. The main problems are the downstream effects of foam and colour from treatment works effluent. United Utilities (formerly North West Water) has worked towards reductions in the impact of this discharge via sewer to the canal through waste minimisation and treatment at source. The Environment Agency continue to monitor this situation.

3.0 INFORMATION MANAGEMENT

3.1 Introduction

The nature of the contaminated land regime will mean that a large amount of information will need to be identified and managed effectively. This will enable the Council to work in a rational, ordered and efficient manner.

3.2 Source Information

Trafford has a large legacy of industrial land uses. Initial information on potential contaminated sites will come through local knowledge of the area that has been built up by Officers working within the Council and remediation reports previously submitted to the Council. This will be strengthened through contacts with the local history groups and information gathered from the local residents.

In addition the Trafford Park Development Corporation managed the Trafford Park area from April 1987 to March 1998 and conducted a considerable number of site investigations. When the Corporation closed, all such reports were passed to the Planning team of the Council. These will provide an invaluable source of information for assessment of Trafford Park.

Other internal sources of information include site investigations held by Construction Services; details on illegal tipping operations from Legal Services; a database of Planning applications from 1974 onwards and reports from the Building Control team.

External consultation with statutory consultees and local bodies to identify information pertaining to Trafford has been carried out. Those contacted included:

- Environment Agency,
- English Nature,
- English Heritage,
- Greater Manchester Geological Unit,
- Greater Manchester Archaeological Unit,
- Greater Manchester Ecological Unit,
- Greater Manchester Research; and
- DEFRA

This liaison will continue to assist the Authority in identifying receptors and assessing the extent to which they are exposed/affected by contaminants. In addition this communication is important in establishing the extent to which other regulatory authorities will consider the possibility of harm to receptors.

It will be necessary to visit some of these organisations when carrying out detailed investigations of site to gain specific information. For example the detailed history of an industrial site, details of potential receptors to be assessed, ecological impact of a contaminant.

3.2.1: GIS

Key to identifying potentially contaminated sites will be the use of Trafford Council's Geographical Information System (GIS). This digitised data will ensure a risk-based approach to identifying contaminated land. Through historical maps dating from 1843 to the current day, geological and hydrological maps, and baseline data from the Environment Agency it will be possible to identify potential source-pathway-receptor linkages.

All the known landfill sites in Trafford have been digitised. Aerial photography and urban morphology types will form additional GIS layers.

Trafford's Unitary Development Plan is available on the Council website. This allows information on protected sites and key Council policies to be clearly identified.

3.3 Tools for Information Management

Information will need to be stored, recorded and reviewed periodically. It will also need to be stored in a format that is readily available with the Environment Agency and other Local Authorities.

The public protection departments APP database will be used. This will contain tables of potentially contaminated sites, details of letters and notices produced, determinations and site details. It will be attached to the GIS to form the basis of the register and information for local searches.

Details of all the identified and prioritised contaminated land sites are contained within a dedicated spreadsheet held on Trafford MBC's network and on the Public Protections department's APP database. On the APP database a premises record has been set up for each potentially contaminated site, site data is attached to this record and be easily accessible to other officers and provide an auditable diary of actions and decisions made against each specific site. Access is gained through the premises desktop and searches are carried out against each sites unique local authority reference number.

Contact Trafford MBC Environmental Protection Team for further information.

3.4 Complaints and Voluntary Information Provision

Occasionally the Council may receive information or complaints regarding contaminated land. This may be from a member of the public, business or community group. All such information will be investigated and recorded in a standard format. Potentially contaminated land will be investigated and assessed as described in Section 4.

4.0 PROCEDURES

4.1 Introduction

This section describes the Council's procedures for dealing with the inspection and identification of contaminated land. It refers to the internal management arrangements for the new contaminated land regime.

A Public Protection group for contaminated land works to implement the contaminated land strategy. This provides a forum for updating procedures and discussing all issues relating to contaminated land.

4.2 Internal Procedures

4.2.1 Environmental Protection Service

Although the implementation of the regime demands a multi-disciplinary approach, the Environmental Protection Service is responsible for the preparation and update of the strategy document. In addition, primary responsibility for the enforcement of the regime will rest with this service.

4.2.2 Assessment of the Borough

4.2.3 Methodology

To promote consistency amongst member Authorities of the Manchester Area Pollution Advisory Council (MAPAC), a staged approach for assessing each Borough was devised. Trafford adopted this approach.

The stages involved were:

- Identify all potentially contaminated land site in the Trafford Borough Boundary (completed).
- The prioritisation of identified sites using a recognised and justifiable risk assessment (completed).
- The inveistigation of potentially contaminated land to determine the actual risks.
- The remediation of contaminated land, where land meets the criteria to be formally designated 'contaminated'.

Trafford Council's Pollution section has successfully identified and prioritised over 1200 sites in the borough where land contamination may have occurred. Details of how sites were identified and prioritised are contained within Appendix 1.

4.3 Site Investigation of Potentially Contaminated Sites

Following the prioritisation of potentially contaminated land sites in the borough, it will be the responsibility of the Council to obtain sufficient information to enable it to:

a) determine, in accordance with the statutory guidance, whether that land appears to be contaminated land and shall include evidence of the actual presence of a pollutant in the first case; and
b) decide whether any such land falls within the definition of a special site as prescribed in regulations 2 and 3 of the Contaminated Land (England) Regulations 2000, and is therefore required to be designated as a special site.

For land to be designated as contaminated by the Local Authority, in whose area it is situated, it has to be in such a condition, by reason of substances in, on or under the land, that –

(a) SIGNIFICANT HARM is being caused or there is a SIGNIFICANT POSSIBILITY of such harm being caused; or

(b) POLLUTION OF CONTROLLED WATERS is being, or is likely to be, caused

The local authority should determine that land is contaminated land on the basis that there is a significant possibility of significant harm being caused , where:
(a) it has carried out a scientific and technical assessment of the risks arising from the pollutant linkage, according to relevant, appropriate, authoritative and scientifically based guidance on such risk assessments;
(b) that assessment shows that there is a significant possibility of significant harm being caused; and
(c) there are no suitable and sufficient risk management arrangements in place to prevent such harm

Detailed Investigation of Potentially Contaminated Land Sites

Following the prioritisation of site further detailed inspection is required to be undertaken. The investigation required will be site specific and follow a tiered system outlined below:

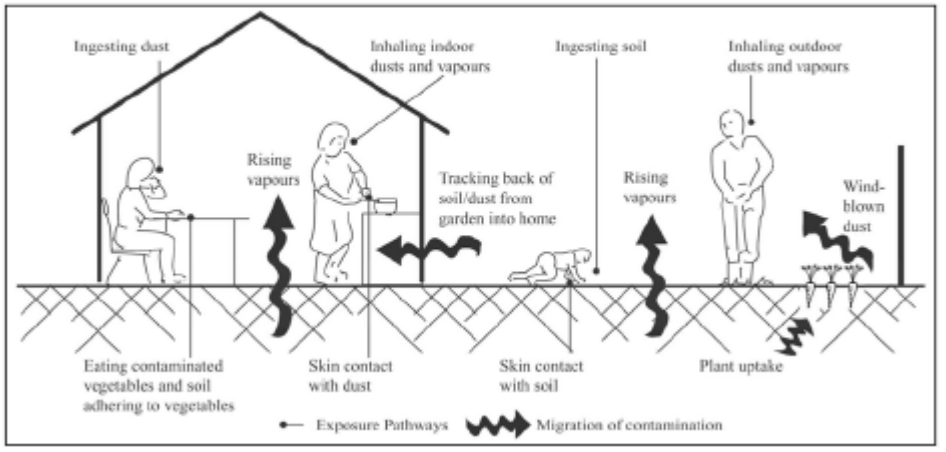
Tier 1: Detailed Desk Study – the collation and assessment of site specific documentary information and any other information made available to the Council. Potential sources of information include the site owners, local history, planning archives, environment agency, published/reference documents, historical mapping, industrial/trade organisations, and regeneration bodies amongst others. A standard format for this desk study is contained within appendix II

Tier 2: Site Walkover – a visual assessment of the site to identify receptors and potential pathways. Assessment of surrounding areas and, if necessary, limited sampling. Sampling/gas monitoring carried out will be site specific, to appropriate technical standards and if necessary by a 3rd party contracted by the Council. Development of a preliminary risk assessment and conceptual model is a requirement at this stage

The purpose of the preliminary risk assessment is to develop an outline conceptual model and establish whether or not there are any potentially unacceptable risks arising from contamination at the site. A review of the information gained will be carried out to decide if there is a high potential of pollutant linkages on the site, this decision will be reviewed by several parties.

Conceptual model:

Fig 1: Pictorial representation of standard residential conceptual model (EA2008b)



If the conceptual model reveals there is potentially an unacceptable risk arising from contamination at the site it may be necessary to carry out a tier 3 investigation.

Tier 3: Intrusive Investigation – this will be carried out when highly detailed information on the condition and nature of the land is required. This tier may be phased dependant on the scope and objectives of the investigation. It will involve trial pitting and sampling across the site and/or the sinking of gas monitoring boreholes.

Intrusive investigations will not be carried where the Council is provided with information on the condition of the land upon which the Council can determine whether the land is contaminated land. Additionally such investigations would also be unnecessary if an offer to provide such information is made and supplied within a reasonable and specified time.

4.4 Intrusive Site Investigations

All intrusive site investigations will be designed in accordance with government and technical guidance. Investigations will be site specific and will be targeted to prove whether or not there is a significant possibility of significant harm or a risk to controlled waters.

The Council, or its appointed representative, will prepare suitable and adequate health and safety documents and risk assessments under the relevant regulations.

All reasonable precautions will be taken by The Council to avoid harm, water pollution or damage to natural resources or features of historical or archaeological interest which might be caused as a result of intrusive investigation. Relevant bodies will be consulted prior to the commencement of any such works.

If, at any time, on the basis of information obtained from a detailed inspection shows that there is no longer a reasonable possibility that a pollution linkage exists then the Council will cease to undertake any further detailed inspection for that part of sites that have been remediated “suitable for use”.

4.5 Guidelines and Risk Assessment Models

The Environment Agency are the organisations who provide technical guidance which will guide risk assessment when making decisions on whether land is contaminated. To do this the Environment Agency developed Contaminated Land Exposure Assessment Model (CLEA).

The original model was deemed to be unacceptable for categorising what levels of contaminants would constitute significant harm. In 2006 guidance was published that advised regulatory bodies to not make any determinations using the existing CLEA model and that it will be reviewed and upgraded to make it technically sound and auditable when using it to make determination,

In late 2006, Defra published a discussion paper called “Soil Guideline Values: the Way Forward”. The paper discussed various ideas for how the non-statutory Contaminated Land Exposure Assessment “CLEA” technical guidance (first published by the Environment Agency and Defra in 2002) might be amended to make it more useful to assessors conducting risk assessments, and to help decide whether land qualifies as *contaminated land* under Part 2A of the Environmental Protection Act 1990

The new CLEA model was published in 2009. Regulatory authorities can use this CLEA package to help estimate exposure and assess risks to human health from contamination in soil.

CLEA is available for free at www.environment-agency.gov.uk

As part of the CLEA model Soil Guideline Values are published which give general guidance, on a small range of common contaminants. Soil Guideline

Values should be regarded as "trigger values". Where soil concentrations exceed SGV, there may be a cause for concern to human health. Where contaminant levels are below these SGV's further investigation may not be required.

Exceedance's of these SGV's does not necessarily mean there will be a risk to the receptors on a site. It is likely in most cases that specific risk assessments will be required.

4.6 Detailed Quantitative Risk Assessment (DQRA)

DQRA makes greater use of site-specific data to conduct a more accurate assessment of risks. DQRA often involves the use of models to derive site specific assessment criteria (SSAC) that are then compared with measured concentrations in soil, water or soil gas at the site to estimate risk. These criteria will take into account a site specific analysis of pollutant linkages.

This SSAC will be used to more accurately to define whether or not there is a significant possibility of significant harm existing on the site.

The Contaminated Land Exposure (CLEA) methodology can be used to derive SSAC to aid the assessment of risks to human health from soil contamination. This will be the preferred model for Trafford MBC.

Many other models are available for assessing risks to human health, groundwater and ground gas. The choice of model will be dependent on the particular circumstances on a site.

Other risk assessments models are available and may be used such as the SNIFFER (Scotland and Northern Ireland Forum for Environmental Research) Framework and RBCA (Risk Based Corrective Action).

4.7 Significant/Unacceptable Intake

The conditions for significant harm in the statutory guidance underpinning Part 2A (Annex 3, DEFRA2006) state that for significant harm to occur the amount of a pollutant a person is exposed to should "*represent an unacceptable intake or direct bodily contact, assessed on the basis of relevant information on the toxicological properties of that pollutant".*

This statement can give the impression that "unacceptable intake" from land pollution is based on a toxicological parameter. This is not the case and what level of exposure to a contaminant represents an "unacceptable intake" is a policy decision which can only be taken by the local authority.

4.8 Remediation

Where land has been formally designated as contaminated remediation will be required.

Remediation of contaminated land sites can take many forms but to succeed must break pollutant linkages between the source, pathway, receptor (as shown in the conceptual model). Trafford Council will look at new and innovative methods of remediation to suit each situation.

All proposed remediation methods will be assessed for suitability in terms of breaking the pollutant linkages, effect on neighbouring sites and any nuisance implications. Trafford Council will look at sustainable, new and innovative methods of remediation to suit each situation.

Remediation may occur on a voluntary basis, or after enforcement action. In all cases the Council will require a remediation statement after completion of the works. Copies of remediation statements can be provided to relevant land/property owners to help with future sales.

Remediation Statements will also be requested for sites that have been evaluated through the planning process. These statements will not be held on the public register, but on the Councils internal APP database.

The Council may publish a remediation declaration where it is not appropriate to serve a remediation notice.

4.9 Capital Projects Programme

Defra runs the Contaminated Land Capital Projects Programme to help local authorities in England cover the cost of implementing the contaminated land legislation.

The Programme funds two types of work: (1) intrusive site investigations, which aim to find out whether a site is contaminated and, if so, to inform how it should be remediated; and (2) site remediation's, which aim to ensure that contamination at a site will no longer pose a significant risk to people or the environment.

In essence, the Grants Programme works as follows:

- A local authority applies to Defra for funding, explaining what a proposed project would involve, why it is necessary, and how much money it needs.
- Defra sends each application to the Environment Agency, whose assessors check the proposed project against technical merit and value for money principles, adjusting proposed work and costs if necessary. They also give the application a *priority score* based on the risk to human health and scale of environmental impacts.
- Defra decides whether to pay (using priority scoring to sift bids if need be) and pays successful bids.
- The local authority does the work, and reports back to Defra at quarterly intervals and on completion.
- Applications forms and guidance for applying for these funds are available at: http://www.environment-agency.gov.uk/research/planning/121220.aspx

5. Trafford Council Interest

A priority for the Council will be to identify potentially contaminated sites, which are currently or have been owned or occupied by the Council. This will include areas where the Council may be the "appropriate person" and responsible for remediation.

It is anticipated that through the initial identification process and with close liaison with the Strategic Acquisition service area of the Council to identify sites owned by the Council a GIS layer of Council interests in land will be established. If pollutant linkages are identified on such sites then the land will be inspected as soon, as is practicable.

It should also be noted that much of this land would include schools, residential land and allotments, which are all potential receptors

5.1 Other Council Areas

The following Service Areas require information on landfill and potentially contaminated sites to assist in their work:

- Planning and Building Control,
- Construction Services,
- Economic Regeneration (including UDP and Business Initiatives Team),
- Acquisitions and
- Environmental Services (Environmental Development team).

It is anticipated that all these Service Areas will have access to the relevant GIS layers. If a site, initiative or planning application coincides with a landfill or potentially contaminated site then the officer involved will contact the Environmental Protection Service for advice.

The Pollution team have a close association with the Planning Service. All developments that have implications under the Contaminated Land regime are reviewed and assessed. In this way the majority of remediation of contaminated land sites are carried out by development through the planning process

This allows conditions to be placed on Planning Approvals requiring site investigation and remediation where necessary. This will ensure that all new development in Trafford is "suitable for use".

The "suitable for use" approach recognises that the risks presented by any given level of contamination will vary greatly according to the use of the land and a wide range of other factors, such as the underlying geology of the site. Risks therefore need to be assessed on a site-by-site basis.

Limiting remediation costs to what is needed to avoid unacceptable risks will mean that the Council will be able to recycle more previously-developed land than would otherwise be the case, increasing our ability to make beneficial use

of the land. This helps to increase the social, economic and environmental benefits from regeneration projects and to reduce unnecessary development pressures on greenfield sites.

6.0 LIAISON AND COMMUNICATION

6.1 Introduction

Effective communication with all the stakeholders, through the processes of site investigation, risk assessment and risk management, will form an integral part of the process of bringing contaminated land back into use.

Because the wider community may be affected by the condition of the land within its area, it needs to be informed about any risks, which are thought to exist from contamination. Clarity of information and good understanding of the risks arising from contamination will play an important role in effective discussions between the Council, the Agency, developers, consultants and other interested parties.

6.2 Risk Communication

At the outset of any significant site investigation a communication strategy will be required. In order to provide clarity and transparency as well as purpose throughout this risk communication process, the following ground rules will be applied:

1. What are the purpose and goals of the communication process?
2. Who are the stakeholders that need to be identified?
3. What is the frequency and depth of communication going to be?
4. What is the time horizon?
5. How is accountability and transparency to be ensured?
6. How often will the communication process be reviewed?
7. Who is supporting the communication process (financially or otherwise)?
8. How is the documentation of the process to be stored for future reference?

The communication process will be started early to ensure that maximum benefit is gained and adverse publicity is avoided. This early communication will involve a clear delineation of the site in order to fully identify potentially interested local parties. Collectively, this group of people can be regarded as the “stakeholders” who have an interest in the contaminated land in question.

When communicating risks, this group of people will be considered in the broadest context possible as it may include those with professional expertise and financial interests along side those with local community knowledge or status.

Throughout the risk assessment and management of contaminated land, there will be ongoing communication with the stakeholders identified. An assessment will be carried out into the ongoing communication to assess whether the approach is effective and having the desired results. This will be done by seeking feedback and listening to the stakeholders involved.

Communication will be based on robust scientific data and where possible with visual aids. Where a specific site is being discussed, a key objective will be to establish support amongst interested parties of the scientific evaluations

underlying that assessment. This may require ensuring that interested parties support the organisation conducting the scientific investigation, or getting the results of the investigation independently reviewed by a body acceptable to all involved. Where possible, alternative independent sources of information will be identified so those stakeholders can pursue more information should they wish.

The overarching communication objective will be to establish the Council as OPEN, ACCESSIBLE, LISTENING and RESPONSIVE. Within this context, a key objective will be to share understanding of the risk assessment process with interested parties, to allow them to raise concerns, and buy into the process. The Council realises that it is essential that the views of the stakeholders are carefully assessed and the risk communication process will always be seen as a two-way process.

To assist in this process, Trafford Council's communication service will engaged early. They will be able to help develop and implement the necessary communication strategy. Making use of specialists and consultants engaged by Trafford Council on contaminated land projects will also assist. Having other agencies participate (Health Protection Agency, Environment Agency) to comment on areas they specialise in will also be necessary.

6.3 Communication with Statutory Bodies

All statutory consultee's for the contaminated land regime have been contacted.

These are:

- Environment Agency,
- English Nature,
- English Heritage,
- DEFRA
- North West Development Agency.

A good working relationship has been established with the Environment Agency. The Memorandum of Understanding: Environment Agency/Local Government Association Annexe C Protocol for Land Contamination; and the Agency's Part IIA EPA 1990 Process Documentation provide a framework for information transfer. All consultees had the opportunity to comment on the original strategy prior to publication. It is also anticipated that where relevant, the organisations will be contacted on issues that may arise from the investigation process.

6.4 Liaison with Landowners, Occupiers and other Interested Parties

When a potentially contaminated site is identified it is crucial that the Council act in a responsible manner to ensure that unnecessary concern is avoided.

Prior to conducting a site investigation all reasonable efforts will be made to contact the landowner and occupier. The Strategic Acquisitions and Legal Services areas of the Council will check land ownership details.

Officers will seek the full co-operation of the landowner and occupier before undertaking a site investigation. However if this is not possible the Council may exercise its powers of entry under section 108 of the Environment Act 1995.

Once the landowner and occupier have been identified the Council will write to explain the legislation and why their land has been identified for inspection. Owners, occupiers and other interested parties will be kept fully informed at all stages of the investigation.

In some cases there may be interested parties such as Mersey Valley who manage many countryside sites in Trafford. Early consultation is essential and may involve adjacent sites.

At least five working days prior to formal designation a letter will be sent to the owner and/or occupier of the site outlining the reasons for the designation. Once the site has been designated the Council will then confirm this and seek remedial action. It may also be appropriate to inform neighbouring properties of the designation.

6.5 Provision of Information to the Environment Agency

Information is required by the Environment Agency to enable them to produce an annual report on the State of Contaminated Land in England.

Information is required on site designations, remedial action and regulatory activity. The Agency has produced standard documentation (SOCL/LA forms 1-3) to assist Local Authorities in providing this information. A database will be established to store this data and to produce reports for the Agency. This will ensure good data management and an easy transfer of information.

6.6 Transfer of Special Sites to the Environment Agency

The Council will notify the Agency to inform them that a potential special site has been identified. This will be in writing, stating that the site has been (or will be) declared as statutory contaminated land and the reasons for it to be declared a special site. Standard documentation will be produced to assist this.

The Council will then expect to undertake close liaison and communication with the Agency whilst the status of the site is determined.

7.0 REVIEW MECHANISMS

7.1 Triggers for Reviewing Inspection Decisions

This strategy outlines the general approach to be taken in inspecting land. In certain circumstances, inspections will occur outside the general framework, and previous decisions may have to be reviewed. Such events include:

- Unplanned episodes such as flooding, fire, spillages etc.
- Proposed changes in the use of land or adjacent land.
- New information from other statutory bodies, landowners, members of the public etc.
- Identification of localised health effects, which may be related to the land in question.

7.2 Reviewing the Strategy

The strategy will be updated in accordance with “Best Value” principles whenever new circumstances arise. A formal review will occur annually, and the strategy will be republished when necessary. This will be available on request and on the Council's website.

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Economic & Community Regeneration Strategy Action Plan 2000/20001

Nature Conservation Strategy

APPENDICES

APPENDIX A

SIGNIFICANT HARM TABLES

TABLE A – CATEGORIES OF SIGNIFICANT HARM

	Type of Receptor	Description of harm to that type of receptor that is to be regarded as significant harm
1	Human beings	Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.
2	Any ecological system, or living organism forming part of such a system, within a location which is: • an area notified as an area of special scientific interest under section 28 of the Wildlife and Countryside Act 1981; • any land declared a national nature reserve under section 35 of that Act; • any area designated as a marine nature reserve under section 36 of that Act; • an Area of Special Protection for Birds, established under section 3 of that Act; • any European Site within the Conservation (Natural Habitats etc) regulations 1994 (i.e. Special Areas of Conservation and Special Protection Areas); • any habitat or site afforded policy protection under paragraph 13 of Planning Policy Guidance Note 9 (PPG9) on nature conservation (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.	For <u>any</u> 'protected location': 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. Harm which effects 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 addition, in the case of a protected location which is a European site (or a candidate Special Area of Conservation or a potential Special Protection Area), harm which is incompatible with the favourable conservation status of natural habitats at that location or species typically found there. In determining what constitutes such harm, the local authority should have regard to the advice of English Nature and to the requirements of the Conservation (Natural Habitats etc) Regulations 1994.

TABLE A – CATEGORIES OF SIGNIFICANT HARM (Continued)

	Type of Receptor	**Description of harm to that type of receptor that is to be regarded as significant harm**
3	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 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 pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss.
4	Property in the form of buildings. For this purpose, "building" has the meaning given in section 336 (1) of the Town and Country Planning Act 1990 (i.e. it includes "any structure or erection, and any part of a building but does not include plant or machinery comprised in a building").	Structural failure, substantial damage or substantial interference with any right of occupation. For this purpose, 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. Additionally, in the case of a scheduled Ancient Monument, substantial damage should 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.

TABLE B – SIGNIFICANT POSSIBILTY OF SIGNIFICANT HARM

	Descriptions Of Significant Harm (As Defined In Table A)	**Conditions For There Being A Significant Possibility Of Significant Harm**
1	Human health effects arising from • the intake of a contaminant, or • other direct bodily contact with a contaminant	If the amount of the pollutant in the pollutant linkage in question: • which a human receptor in that linkage might take in, or • to which such a human might otherwise be exposed, as a result of the pathway in that linkage would represent an unacceptable medical risk, assessed on the basis of relevant information on the toxicological properties of that pollutant. Such an assessment should take into account: • the likely total intake of, or exposure to, the substance or substances which form the pollutant, from all sources including that from the pollutant linkage in question; • the relative contribution of the pollutant linkage in question to the likely aggregate intake of, or exposure to, the relevant substance or substances; and • the duration of intake or exposure resulting from the pollutant linkage in question. Toxicological properties should be taken to include carcinogenic, mutagenic, teratogenic, pathenogenic, endocrine disrupting and other similar properties.
2	All other human health effects (particularly by way of explosion or fire)	If the probability, or frequency, of occurrence of significant harm of that description is unacceptable, assessed on the basis of relevant information concerning: • that type of pollutant linkage, or • that type of significant harm arising from other causes. Such an assessment should take into account the levels of risk, which have been judged unacceptable in other similar contexts.
3	All ecological system effects.	If significant harm of that description is more likely than not to result from the pollutant linkage in question, taking into account relevant information for that type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.
4	All animal and crop effects.	If significant harm of that description is more likely than not to result from the pollutant linkage in question, taking into account relevant information for that type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.
5	All building effects	If significant harm of that description is more likely than not to result from the pollutant 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 pollutant linkage.

APPENDIX B
SURFACE WATER CLASSIFICATION SCHEMES

SURFACE WATER CLASSIFICATION SCHEMES

General Quality Assessment: Water Quality

Class	Water Quality	Dissolved Oxygen % Saturation 10 percentile	Biochemical Oxygen Demand mg/l 90 percentile	Total Ammonia mg/N/l 90 percentile
A	Very Good	>80	<2.5	<0.25
B	Good	>70	<4.0	<0.6
C	Fairly Good	>60	<6.0	<1.3
D	Fair	>50	<8.0	<2.5
E	Poor	>20	<15.0	<9.0
F	Bad	<20	>15.0	>9.0

River Ecosystem Classification: Water Quality Criteria

Class	Dissolved Oxyen % saturation	Biochemical Oxygen Demand mg/l 90 percentile	Total Ammonia mg/N/l 90 percentile	Unionised ammonia mg/N/l	pH: lower limit 5 percentile; upper limit 95 percentile	Hardness mg/l $CaCO_3$	Dissolved Copper µg/l 95 percentile	Total Zinc µg/l 95 percentile
RE1 Very good quality suitable for all fish species	80	2.5	0.25	0.021	6.0-9.0	]10 ν10 50 ν50]100 ν100	5 22 40 112	30 200 300 500
RE2 Good quality suitable for all fish species	70	4.0	0.6	0.021	6.0-9.0	]10 ν10 50 ν50]100 ν100	5 22 40 112	30 200 300 500
RE3 Fair quality suitable for high class coarse fish	60	6.0	1.3	0.021	6.0-9.0	]10 ν10 50 ν50]100 ν100	5 22 40 112	300 700 1000 2000
RE4 Fair quality suitable for coarse fish	50	8.0	2.5		6.0-9.0	]10 ν10 50 ν50]100 ν100	5 22 40 112	300 700 1000 2000
RE5 Poor quality likely to limit coarse fish	20	15.0	9.0	-	-	-	-	-

APPENDIX C

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Brownfield:	Any land that has been previously developed. It should be noted that not all brownfield sites are in urban areas, and not all brownfield sites are contaminated.
Contaminant:	A substance which is in, on or under the land and which has the potential to cause harm or to cause pollution of controlled waters.
Contaminated Land:	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- (a) Significant harm is being caused or there is a significant possibility of such harm being caused, or; (b) Pollution of controlled waters is being, or is likely to be, caused.
Controlled Waters:	These include: (a) Inland waters (rivers, streams, underground streams, canals, lakes and reservoirs) (b) Groundwaters (any water contained in underground strata, cavities, wells or boreholes) (c) Territorial waters (the sea within 3 miles of a baseline) (d) Coastal waters (the sea within the baseline up to the line of highest tide, and tidal waters up to the fresh water limit)
Geographical Information Systems (GIS):	A tool for managing and visualising spatially related digital data. This is a combination of digital maps and their overlays (layers). This facilitates several layers to be viewed at once and information relating to the layers to be stored.
Harm:	Harm to the health of living organisms or other interference with the ecological systems of which they form part of and, in the case of man, includes harm to his property.
Local Agenda 21:	Local Agenda 21 is the action plan, which all Local Authorities have to produce to work towards a sustainable future. This was agreed at the Rio Earth Summit in 1992 to achieve sustainable development
MAPAC	The Manchester Area Pollution Advisory Council comprises of the Councils of: Blackburn, Bolton, Macclesfield, Manchester, Oldham, Rochdale, Rossendale, Salford, Stockport, Tameside, Trafford, Warrington, West Lancashire and Wigan.
Metadata:	Text description of a GIS dataset. This will detail the date produces, scale, projection, error etc.
Pathway:	One or more routes or means by, or through, which a receptor: (a) is being exposed to, or affected by, a contaminant, or (b) could be so exposed or affected.
Pollutant Linkage:	The relationship between a source, pathway and receptor.
Polluter Pays Principle:	The costs for the remediation of contaminated land sites shall be sort from the appropriate persons

Permeability:	The capacity of a porous material for transmitting a fluid.
Receptor:	Either: (a) a living organism, a group of living organisms, an ecological system or a piece of property which: (i) is in a category listed in Table A of Appendix A as a type of receptor, and (ii) is being, or could be, harmed, by a contaminant; or (b) controlled waters, which are being, or could be, polluted by a contaminant.
Register of Contaminated Land:	A public register maintained by the Council under Section 78R relating to the particulars of contaminated land designation.
Remediation:	As defined in section 78A(7) of the DETR Circular 02/2000 as: (a) the doing of anything for the purpose of assessing the condition of (i) the contaminated land in question; (ii) any controlled waters affected by that land; or (iii) any land adjoining or adjacent to that land; (b) 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 (i) preventing or minimising, or remedying or mitigating the effects of any significant harm, or any pollution of controlled waters, by reason of which the contaminated land is such land; or (ii) restoring the land or waters to their former state; or (c) the making of subsequent inspections from time to time for the purpose of keeping under review the condition of the land or waters.
Remediation Action:	Any individual thing which is being, or is to be, done by way of remediation.
Remediation Declaration:	A document prepared and published by the enforcing authority recording remediation actions which it would have specified in a remediation notice, but which it is precluded from specifying by virtue of sections 78E(4) or (5), the reasons why it would have specified those actions and the grounds on which it is satisfied that it is precluded from specifying them in a notice.
Remediation Notice:	A notice specifying what an appropriate person is to do by way of remediation and the periods within which he is required to do each of the things specified.
Remediation Statement:	It is a statement prepared and published by the responsible person detailing the remediation actions which are being, have been, or area expected to be, done as well as the periods within which these things are being done.

Risk Assessment:	Comprises: (a) identification of potential hazards associated with a site, and (b) assessment of the degree of hazards through consideration of pollutant linkages, and (c) estimation of the likelihood that an adverse effect will result from the exposure to the hazard and the nature of the effect, and (d) evaluation of the significance of estimated risks.
Risk Management:	The process whereby decisions are made to accept a known or assessed risk and/or the implementation of actions to reduce the consequences of probabilities of occurrence.
Select List:	A list of environmental consultant held by the Council
Source:	A substance in on or under the land with the potential to cause harms.
Source Protection Zones:	Protection zones around sources of groundwater used for public supply where specified activities and processes are prohibited or restricted.
Special Sites:	Defined by section 78A(3) as: Any contaminated land (a) which has been designated as such a site by virtue of section 78C(7) or 78D(6)… …, and (b) whose designation as such has not been terminated by the appropriate Agency under section 78Q(4)… … The effect of the designation of any contaminated land as a special site is that the Environment Agency, rather than the Local Authority, becomes the Enforcing authority for the land.
Suitable to Use:	The circumstances of the land are such that, in its current use it is no longer contaminated land, and the effects of any significant harm or pollution of controlled waters which has occurred are remedied.
Sustainable Development:	Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.
Unitary Development Plan:	Plan providing the framework and priorities for development, development control, environmental improvement and conservation across the whole of the Borough. This is a statutory land use plan for the Borough.

APPENDIX D

Action Already Undertaken On Contamination

Inspections of the Trafford Borough identified 27 Council owned landfill sites and they have been prioritised them into risk order. Many of the sites identified were tipped by the former District Councils, or acquired by the Council. Not all of the landfill sites will be classified as being contaminated land under the new regime, as many are already 'suitable for use' and do not fall within the statutory definition.

The Council's sites are systematically monitored for landfill gas where necessary and the details maintained in a database. Monitoring frequency is dependent on risk rating and advice from Government guidance.

In 1990 the Government introduced the Supplementary Credit Approval (SCA) Scheme which provided an opportunity for Councils throughout the Country to bid for funds to investigate and remediate Council owned landfill sites.

Since 1992 the Council has proactively and competitively secured over £2,000,000 in SCA allocations. Schemes have varied from simple gas venting measures, to highly sophisticated engineered solutions. In total, 14 sites have been addressed, some comprising phased schemes extending over a number of years. In all instances the schemes have resulted in significant environmental improvements which have focussed on the removal of unacceptable risks to human health or the environment.

Remediation works often lead to real gains in urban regeneration of brownfield sites and for the wider community. Consultation with ecological experts and countryside agencies has ensured a sympathetic approach, and in many cases tree planting and other landscaping have dramatically improved locations.

APPENDIX E

Examples of Potentially Contaminating Uses of Land

A wide range of industries may historically have contaminated, or have the potential to contaminate the land they are sited upon (and neighbouring land) — The DOE Industry Profiles give further details.

– Smelters, foundries, steel works, metal processing & finishing works
– Coal & mineral mining & processing, both deep mines and opencast
– Heavy engineering & engineering works, e.g. car manufacture, shipbuilding
– Military/defence related activities
– Electrical & electronic equipment manufacture & repair
– Gasworks, coal carbonisation plants, power stations
– Oil refineries, petroleum storage & distribution sites
– Manufacture & use of asbestos, cement, lime & gypsum
– Manufacture of organic & inorganic chemicals, including pesticides, acids/alkalis, pharmaceuticals, solvents, paints, detergents and cosmetics
– Rubber industry, including tyre manufacture
– Munitions & explosives production, testing & storage sites
– Glass making & ceramics manufacture
– Textile industry, including tanning & dyestuffs
– Paper & pulp manufacture, printing works & photographic processing
– Timber treatment
– Food processing industry & catering establishments
– Railway depots, dockyards (including filled dock basins), garages, road haulage depots, airports
– Landfill, storage & incineration of waste
– Sewage works, farms, stables & kennels
– Abattoirs, animal waste processing & burial of diseased livestock
– Scrap yards
– Dry cleaning premises
– All types of laboratories

Other uses & types of land that might be contaminated include:

– Radioactive substances used in industrial activities not mentioned above – e.g. gas mantle production, luminising works
– Burial sites & graveyards
– Agriculture – excessive use or spills of pesticides, herbicides, fungicides, sewage sludge & farm waste disposal

– Naturally-occurring radioactivity, including radon

– Naturally-occurring elevated concentrations of metals and other substances

– Methane & carbon dioxide production & emissions in coal mining areas, wetlands, peat moors or former wetlands

APPENDIX F

Site Identification

The first stage will be to further develop the use of the GIS. To enable other Service Areas to be aware of potentially contaminated sites, a GIS layer of potentially contaminated sites will be developed. This will involve reviewing the historical maps of the Borough to identify former industrial usage. The layer of potentially contaminated sites will be updated as more information is incorporated.

All sites that have been subject to investigation and/or remediation will be logged. This will be a live record of all sites that the Council has been involved in. These will not necessarily be statutorily contaminated sites but will be a record of all sites where contamination has been addressed or considered. Each site will be given a unique reference number to enable the efficient management of information.

Further layers will be developed to identify pathways and receptors. These will relate to geological and hydrogeological features, current land use and will add to the information provided by the Environment Agency. Key receptors to be identified in relation to current land use include schools, allotments and residential areas. In addition to this, information from the UDP layers including ecological sites, green belt and brownfield sites will also be reviewed.

Source information will be continually reviewed to add depth to these layers and identify any missed sites. In addition it may be appropriate to visit some sites.

Liaison with the Environment Agency will be important for sites involving controlled waters.

Assessment on whether significant harm is occurring (or there is a significant possibility of such harm) will be undertaken later in the process. This will be through scientific and technical assessment of all evidence gained through the desk based study and site investigation (whether undertaken by the Council, its representative or a representative of the landowner). It may also be necessary to undertake a risk assessment to consider whether on the balance of probabilities significant harm is being caused.

Prioritisation of Potentially Contaminated Sites

Using a systematic risk assessment methodology devised by MAPAC (Pickford, 2001), sites identified, as being potentially contaminated through the identification procedure will be rapidly arranged into a prioritised order. The procedure is designed to score sites highly where there is a greater potential for significant contamination in close proximity to the most sensitive receptor(s) and where a pathway may exist. This will produce a ranked order placing sites according to their potential, but not actual risk. In this way sites most likely to harm sensitive receptors will be dealt with first.

Within the methodology sites are scored on the basis of the priority of their sources (e.g. land classification), pathways (e.g. geology) and receptors (e.g. land occupation types, surface water classifications etc.).

The methodology is biased so as to score sites that may have implications for human health higher. Other receptors are prioritised in the following order (highest priority first):

- Controlled waters, property in the form of crops and live stock;
- Ecological systems; and
- Property in the form of buildings (where no risk to human health exists).

As potentially contaminated sites are arranged into a prioritised order, the next stage of investigation will be initiated. The sites will be grouped into high, medium and low risk to assist the Council to further rationalise the work.
Where additional information becomes available at a later date or new site is identified the prioritised list would be reviewed and sites will be reprioritised as appropriate.

For the purpose of the new regime, to apportion liability for remediation, the "appropriate person" must be identified. This will normally be the person who has caused or knowingly permitted the contamination. In circumstances where this person cannot be found the appropriate person may be the owner or occupier of the land. The precise nature of this chain of responsibilities is described within the regulations (see: Defra Circular 01/2006).

Where a person owns and occupies a dwelling on land that has been declared contaminated, Trafford Council will consider waiving or reducing its costs recovery where that person satisfies the authority that, at the time the person purchased the dwelling, they did not know, and could not reasonably have been expected to have known, that the land was adversely affected by the presence of a pollutant. Each case will be dealt with specifically and on an individual basis..

Where an "appropriate person" cannot be found, the site is known as an "orphan site" and the Council may have to bear the costs of remediation.

The responsibility for engaging external consultants and contractors will fall to the Environmental Protection Service. This work may include the specialist identification of land, laboratory analysis of samples and remediation of contaminated land. ?To assist in this the Environmental Protection Service has a "Select List" of environmental consultants.?

APPENDIX G

Useful Organisations

During the inspection, assessment and remediation of contaminated land sites it will be necessary to involve and gain expert advice from other organisations. This may relate to issues concerning effects on human health, effects on groundwater ecological effects and issues concerning the contamination of food grown on the site. The main organisations would be:

Health Protection Agency

The Health Protection Agency (HPA) is an independent UK organisation that was set up by the government in 2003 to protect the public from threats to their health from infectious diseases and environmental hazards. It does this by providing advice and information to the general public, to health professionals such as doctors and nurses, and to national and local government. Help they provide may involve the reviewing and interpretation of human health risk assessments, and assisting in adequately communicating the results of these to communities. Furthermore, specialist advice from the HPA is available to Primary Care Trusts (PCTs), Local Health Boards (LHBs) and local authorities to assist in the investigation of the sources of chemical poisonings, or potential health effects identified by designation of areas as contaminated land under the Part 2A regime.

HPA are not able to offer technical advice on conducting risk assessments, such as suggesting appropriate sampling strategies or conducting risk assessments of behalf of local authorities.

The Manchester Division of the HPA is the Greater Manchester Health Protection Unit. The contact details are:

Greater Manchester unit:

Floor 7b, Sentinel House
Albert Street
Eccles
Manchester M30 0NJ

Tel: 0161 786 6710
Email: gmancHPU@hpa.org.uk

Out of Hours Contact:

For urgent health protection calls please telephone Tameside Hospital on **0161 331 6000** and ask for the "**Health Protection On Call Rota** ".

Food Standards Agency

The Food Standards Agency is an independent Government department set up by an Act of Parliament in 2000 to protect the public's health and consumer interests in relation to food.

Contact details are**:**

Contaminants

Organic contaminants (dioxins, PCBs, BFRs, PAHs, PFOS):

David Mortimer

tel: 020 7276 8731

email: david.mortimer@foodstandards.gsi.gov.uk

Inorganic contaminants (lead, mercury etc)

Kara Thomas

tel: 0207 276 8711

email: Kara.Thomas@foodstandards.gsi.gov.uk

Contaminated land/ allotments

Alan Dowding

tel: 020 7276 8736

email: alan.dowding@foodstandards.gsi.gov.uk

Environment Agency

Main functions as described in the strategy document.

Contact details are:

Environment Agency
North-west Regional Office
Appleton House
430 Birchwood Boulevard
Warrington
Cheshire
WA3 7WD
08708 506506
http://www.environment-agency.gov.uk/

Also RICHARD FAIRCLOUGH HOUSE, Knutsford Road, Latchford, Warrington, Cheshire, WA4 1HT

English Nature

Natural England is the government's advisor on the natural environment. We provide practical advice, grounded in science, on how best to safeguard England's natural wealth for the benefit of everyone. Important to contact when assessing possible remediation techniques, the impact contamination is having on ecosystems/biodiversity in Trafford.

Contact Details are:

Manchester

Natural England, 3rd Floor, Bridgewater House, Whitworth Street, Manchester, M1 6LT
Tel: 0161 237 1061
Fax: 0161 237 1062
Email:northwest@naturalengland.org.uk