

17/06
APPENDIX
2



Havering
LONDON BOROUGH

Contaminated Land Inspection Strategy

Revision 02

Version Control

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Note

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Forward

Havering has areas of land where there has been significant industrial development. The former industrial and other land uses (such as gravel extraction followed by the unregulated landfilling of waste) have created a legacy of land contamination, which may pose a risk to human health and/or the environment. It is important that these potential risks from land contamination are identified and appropriately addressed.

This Contaminated Land Inspection Strategy 2017-2021 sets out Havering Council's approach for dealing with these risks. The Council first adopted its Contaminated Land Inspection Strategy in 2001. This Strategy was revised and published in September 2004. Since then, considerable progress has been made in the identification, assessment and remediation of potentially contaminated land within the borough (primarily through the planning process). There have also been changes to national legislation and guidance.

This revised Strategy has taken these changes into account. Havering Council will continue to work to ensure successful implementation of this Strategy, which will make a contribution towards fulfilling the Council's vision for a clean Borough, where people are safe and where residents are proud to live.

Executive Summary

This updated Contaminated Land Inspection Strategy 2017-2021 sets out Havering Council's approach to identification, assessment and remediation of contaminated land within the borough, as required by Part 2A of the Environmental Protection Act 1990. This Strategy replaces Havering Council's previous Strategy (Revision 01) and incorporates the changes required by the **Contaminated Land Statutory Guidance (April 2012)**.

A generic explanation of the primary legal framework, underlying principles and associated Statutory Guidance is provided. A description of relevant aspects of Havering, such as current land use characteristics, protected locations, geology and hydrogeological characteristics is also included.

The aims of Havering Council's Contaminated Land Inspection Strategy are:

- to ensure compliance with Part 2A of the Environmental Protection Act 1990 (as amended) and;
- to identify and remove unacceptable risks to human health and the environment associated with contaminated land.

To achieve these aims, Havering Council takes a strategic approach. The first stage is to gather information on potentially contaminative land uses (i.e. sources of contamination), receptors, and pathways from a variety of sources. This stage is followed by a risk-based prioritised detailed inspection to, firstly, identify sites where one or more potential contaminant linkages exist and, secondly, to rank these sites in priority from high to low for further inspection. Under this Strategy, the prioritised list of sites for further inspection is programmed for review from within 2017.

Once sites have been categorised, in accordance with the methodology set out herein, detailed inspection will be undertaken, primarily through desk-based assessments and where necessary intrusive investigations, to help determine whether (a) significant harm is being caused (b) there is significant possibility of such harm occurring, (c) significant pollution of controlled waters is being caused or (d) there is significant possibility of such pollution being caused. Havering Council aims to undertake desk studies and preliminary risk assessments for the **15 highest risk sites (three per annum)** of the prioritised list from 2017 to 2021. Decisions on carrying out intrusive site investigations will be taken on a site specific basis, taking into consideration the potential risk posed to human health by a site, as well as, resources and information available at that time.

This Strategy also highlights the importance of a broader approach to dealing with contaminated land using other regulatory actions. Planning is one of the main regimes through which Havering Council deals with land contamination when considering applications for proposed developments. Other regimes include environmental permitting, pollution of controlled waters and waste management licensing.

Havering Council has the responsibility for determining whether land within its jurisdiction is contaminated land. Once the land has been determined as contaminated land, in accordance with the procedures of the revised Statutory Guidance, Havering Council will consider how that land should be remediated. Public Protection staff will liaise with relevant sections of Havering Council as well as with external stakeholders where it is required as early as possible throughout the inspection, site investigation and remediation stages.

1. Introduction

1.1 General Policy of the London Borough of Havering

Under the Environmental Protection Act 1990 Part 2A (introduced in 2000) the London Borough of Havering Council (Havering Council) is required to inspect its borough to identify areas of contaminated land. Havering Council is also required to take a strategic approach to carrying out its inspection duty, set out its approach as a written strategy, and keep this under periodic review.

Following an amendment to the Statutory Guidance in 2012, local authorities are required to revise the content of their Strategy to take account of the changes.

This Strategy replaces Havering Council's previous strategy (Revision 01) and explains how the Council will implement the Contaminated Land Regime over the period 2017-2021 as required by Part 2A of the Environmental Protection Act 1990 (hereafter referred to as Part 2A), in accordance with the revised **Contaminated Land Statutory Guidance (April 2012)**.

This Strategy sets out Havering Council's approach to identification, assessment and remediation of contaminated land within the borough. It will form part of a corporate policy framework and has been developed to reflect the goals, aims and objectives of key Council policies and strategies. The main local policies and strategies are described below.

1.1.1 Corporate Plan

The Corporate Plan 2015-16 sets out Havering Council's new goals:

- Havering will be clean and the Council will care for the environment;
- People will be safe, in their homes and in the community;
- The residents will be proud to live in Havering.

Part 2A contributes to providing a cleaner and safer environment for people to live and work in. This Strategy assists in achieving the aforementioned goals.

1.1.2 Local Development Framework: Core Strategy and Development Control Policies

Havering's Local Development Framework (LDF) was adopted in 2008 and is a portfolio of different documents which has been prepared to provide for the future planning of the borough. The Core Strategy establishes Havering Council's vision for how the borough will look in 2020, and the objectives for delivering this. It comprises twelve key themes: Places to Live, Places to Work, Town Centres, Culture, Community Needs, Transport, Waste, Minerals, Green Belt, Environmental Management, Design and Heritage.

Under these key themes the Core Strategy includes two sets of planning policies. The first set (Core Policies) states the Council's strategy for balancing the need to deliver economic prosperity and new and affordable housing with the protection and enhancement of the borough's environmental quality. The second set (Development Control Policies) provides more detailed guidance on the criteria against which planning proposals will be determined.

Environmental Management, one of the key themes of the Core Strategy, focuses on how to enhance and protect the environment. It includes the following two Core Policies:

- CP 15 – Environmental Management
- CP 16 – Biodiversity and Geodiversity

The Core Policy (CP15) – Environmental Management seeks to enhance and protect the built and natural environment by taking into account environmental issues such as renewable energy, air quality and pollution, land contamination, the protection of groundwater from contamination, noise, light pollution and climate change adaptation and mitigation.

Within this policy context, Contaminated Land is one of the Development Control Policies (DC53), according to which planning permission for development will only be granted where both of the following criteria are met:

- Where the development is on or near a site where contamination is known, or expected to exist, a full technical assessment of the site's physical stability, contamination and/or production of landfill gas must be undertaken. Where the assessment identifies an unacceptable risk to human health, flora or fauna or the water environment, the applicant will be required to agree acceptable long term remediation measures before any planning permission is granted to ensure there is no future harm with regard to the future use of the site. Where feasible, on-site remediation, especially bio-remediation, is encouraged.
- The development does not lead to future contamination of the land in and around the site.

To reflect the changes introduced by the National Planning Policy Framework 2012 and the London Plan and subsequent alterations, the Council is preparing a new Havering Local Plan to replace the Local Development Framework.

1.2 Legal Framework

The statutory regime for the identification and remediation of contaminated land came into force on 1 April 2000. The primary legislation is contained in Part 2A of the Environmental Protection Act 1990, which was inserted by Section 57 of the Environment Act 1995. It is complemented by the Contaminated land (England) Regulations 2006 (as amended) and the Statutory Guidance, which was published by the Department for Environment, Food and Rural Affairs (Defra) in April 2012 and replaced the previous guidance set out in Defra circular 01/2006.

The regime sets out a framework for the identification and remediation of 'contaminated land', in circumstances where there has not been any identifiable breach of a pollution prevention regime. The overarching objectives of the Part 2A regime are:

- (a) To identify and remove unacceptable risks to human health and the environment.
- (b) To seek to ensure that contaminated land is made suitable for its current use.
- (c) To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development.

1.2.1 Definition of Contaminated Land

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

'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 significant possibility of such harm being caused; or

(b) significant pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused'.

The meaning of 'harm' is also defined in Section 78A(4), as 'harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property'.

The definition of contaminated land by virtue of pollution of controlled waters has been amended by section 86 of the Water Act 2003 and is in line with the Water Framework Directive and Directive 2006/118/EC and came into force in April 2012. In line with land, there must be significant pollution of controlled waters or the significant possibility of such pollution being caused.

1.2.2 Roles and Responsibilities

Part 2A and the Contaminated Land Statutory Guidance 2012 give the Borough Council a series of duties. In carrying out these responsibilities the Council shall:

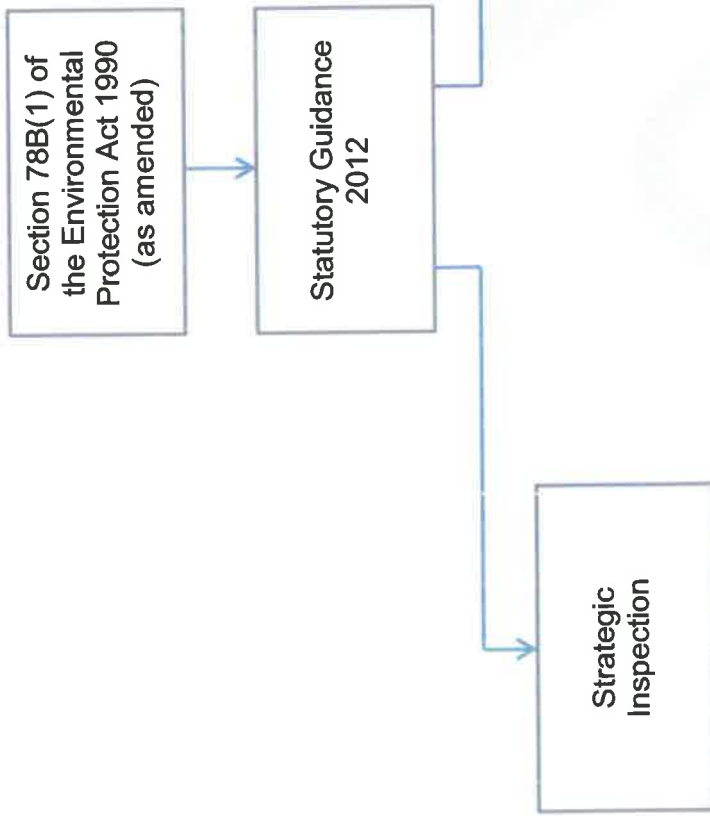
- Prepare, publish and adopt an Inspection Strategy setting out how the Council intends to inspect its area for the purpose of identifying contaminated land.
- Determine whether particular areas of land are contaminated land in accordance with Statutory Guidance.
- Decide whether any site, determined as contaminated land, should be designated as 'special site', and if so transferring enforcement responsibility to the Environment Agency.
- Where land is identified and determined as being contaminated land the Council will:
 - Establish who should bear responsibility for the remediation of land;
 - Establish what remediation is required;
 - Ensure that such remediation takes place, either through agreement with the appropriate person, by serving a remediation notice or, in certain circumstances, through carrying out the work themselves.
- Undertake urgent remediation action where there is imminent danger of serious harm.
- Determine who may be liable for remediation and apportion costs
- Ensure that appropriate remediation takes place, either through voluntary action, or by serving a remediation notice on those responsible and take further action if remediation is not achieved.
- Record certain prescribed information about regulatory actions on a public register and maintain the public register in accordance with the Contaminated Land (England) Regulations 2006.

The Council's inspection duties are shown in Figure 1.

The main duties of the Environment Agency with respect to contaminated land under Part 2A, are:

- To assist the Council in identifying contaminated land.
- To provide site-specific advice to the Council on the remediation of contaminated land.
- To provide advice to local authorities on identifying and dealing with pollution of controlled waters.
- To act as the enforcing authority and ensure remediation for any land designated as a 'special site'.
- To maintain a public register of regulatory actions for special sites.
- To prepare and publish a national report on contaminated land.

Every local authority shall cause its area to be inspected from time to time for the purpose of identifying contaminated land.



The Statutory Guidance recognises that there are two broad types of "inspection" likely to be carried out by local authorities: (a) strategic inspection and (b) detailed inspection.

1. What is considered strategic inspection in the Guidance:
 "collecting information to make a broad assessment of land within an authority's area and then identifying priority land for more detailed consideration".
2. The Local Authority (LA) should set out its approach to carrying out its inspection duty as a written strategy.
3. The written strategy should include (among others):
 i) the LA's approach to strategic inspection
 ii) the LA's approach to prioritisation of detailed inspection and remediation activity

1. What is considered detailed inspection in the Guidance:
 "to obtain information on ground conditions and carrying out the risk assessments which support decisions under the Part 2A regime relevant to that land".
2. If the LA identifies land where there is a reasonable possibility that a significant contaminant linkage exists, it should inspect the land to obtain information to decide whether it is contaminated land.
3. The understanding of risks is developed through a staged approach to risk assessment (preliminary risk assessment, generic quantitative, detailed etc.). The process should normally continue until it is possible for the LA to decide
 i) that there is insufficient evidence that the land might be contaminated land to justify further inspection
 ii) whether or not the land is contaminated land.

Fig. 1 The Council's inspection duties under Part 2A

1.2.3 Underlying Principles of the Regime

Contaminant linkages

For any land to be identified as contaminated land at least one contaminant-pathway-receptor linkage (contaminant linkage), by which a relevant receptor might be affected by the contaminants in question, needs to be established. In other words, for a risk to exist there must be contaminants present in on or under the land in a form and quantity that poses a hazard, and one or more pathways by which they might harm human health, the environment, or property; or significantly pollute controlled waters. The following definitions of 'contaminant', 'receptor', and 'pathway' are included in the Statutory Guidance:

(a) A "contaminant" is a substance which is in, on or under the land and which has the potential to cause significant harm to a relevant receptor, or to cause significant pollution of controlled waters.

(b) A "receptor" is something that could be adversely affected by a contaminant, for example a person, an organism, an ecosystem, property, or controlled waters.

(c) A "pathway" is a route by which a receptor is or might be affected by a contaminant.

All three aforementioned elements of a contaminant linkage must exist in relation to particular land before the land can be considered potentially to be contaminated land under Part 2A, including evidence of the actual presence of contaminants. A schematic diagram of a contaminant linkage is shown in Figure 2.



Fig. 2 Schematic diagram of a contaminant linkage

The presence of one or more contaminant linkages may constitute a risk, which, according to the Statutory Guidance, means the combination of: (a) the likelihood that harm, or pollution of water, will occur as a result of contaminants in, on or under the land; and (b) the scale and seriousness of such harm or pollution if it did occur.

Risk assessment

Identification of the contaminant linkage and whether it is significant is ascertained by following a staged process of risk assessment. This is to gain an understanding of the risks presented by the land and any associated uncertainties. The risks are then communicated in what is known as a site conceptual model which can either be presented in writing or diagrammatic format.

The staged process commences with a preliminary risk assessment. A desk study and site walkover are carried out, in order to obtain information about previous contaminative uses, general physical and geological conditions and gain a preliminary understanding of potential risks associated with the identification of the contamination likely to be present on the site. Where the preliminary risk assessment suggests that further

understanding of the risks is required, a more detailed site investigation is then carried out.

Intrusive site investigation commences with a generic quantitative risk assessment whereby detailed information on the ground conditions is collected to further develop the site conceptual model. This information will allow estimation of the risk that contaminants may pose to receptors, using generic assessment criteria and assumptions and will determine whether a detailed quantitative risk assessment is required.

Depending on the findings of the generic quantitative risk assessment it may become necessary to carry out various further stages of more detailed risk assessment to support a decision as to whether or not a site meets the definition of contaminated land under Part 2A. This may include the development of detailed site specific assessment criteria.

Determination of contaminated land

Following the aforementioned phased risk assessment process, the local authority has the responsibility for determining whether any land appears to be contaminated land. According to the definition of contaminated land, there are four possible grounds for the determination of land as contaminated land:

- (a) Significant harm is being caused;
- (b) There is a significant possibility of significant harm being caused;
- (c) Significant pollution of controlled waters is being caused;
- (d) There is a significant possibility of significant pollution of controlled waters being caused.

If the authority considers that conditions for considering land to be contaminated land do not exist it should not decide that the land is contaminated land.

Before making any determination, the local authority needs to identify one or more 'significant contaminant linkage(s)', which means a contaminant linkage which gives rise to a level of risk sufficient to justify a piece of land being determined as contaminated land.

Remediation of contaminated land

Once land has been determined as contaminated land, the enforcing authority must consider how it should be remediated and, where appropriate, it must issue a remediation notice to require such remediation. The enforcing authority for the purposes of remediation may be the local authority which determined the land, or the Environment Agency, which takes on responsibility once land has been determined if the land is deemed to be a "special site", as defined in section 78A(3) of the Environmental Protection Act 1990 (as amended).

2. Characteristics of Havering

2.1 Geographical Location

The borough lies on the north eastern edge of London between the M25 and the River Thames. It has a population of 245,974 [2014 mid-year estimates by the Office for National Statistics (ONS)] and a total land area of 11,235 hectares (43 square miles). Approximately half of the borough is Green Belt with major urban areas in Romford, Harold Hill/Harold Wood, Elm Park, Upminster, Hornchurch and Rainham. Figure 3 presents the geographical location of the London Borough of Havering.

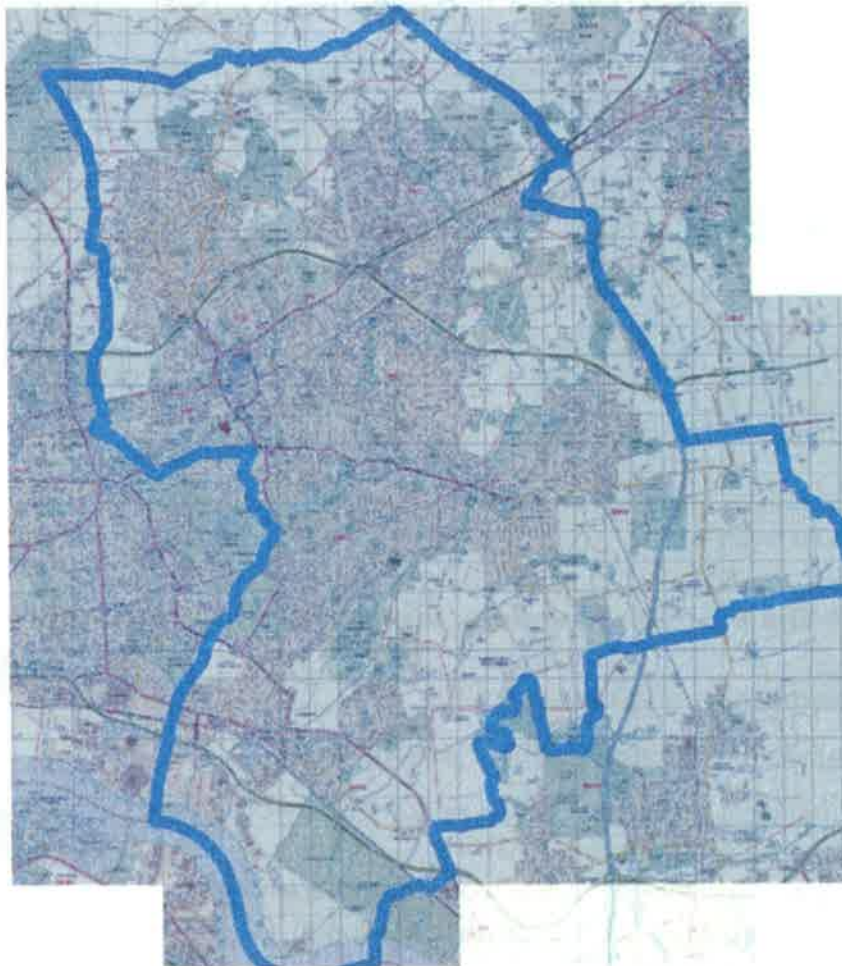


Fig. 3 Geographical location of the London Borough of Havering

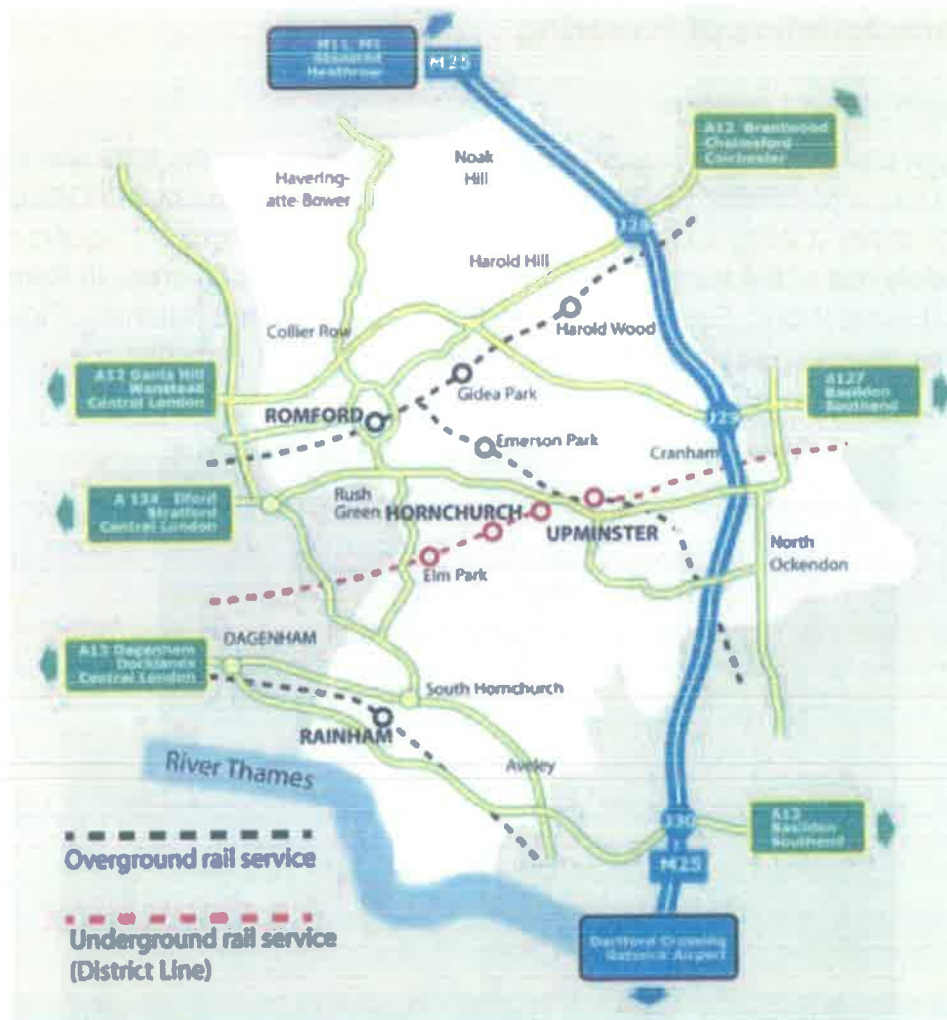


Fig. 4 The Borough boundary, principal towns, transport routes.

2.2 Brief Description and History

The principal areas industrialised within Havering were;

- Rainham, mainly to the south of the London Tilbury Southend (LTS) railway line, but also along the A1306 (formerly A13)
- Eastern Avenue and along the A12 corridor generally
- Crow Lane (including site of the former gas works)
- The brewery site in Romford.

Figure 4 shows the borough boundary, principal towns and transport routes.

Rainham is the main area where there has been significant industrial development and where the most contaminative uses were concentrated. The Ferry Lane area was first developed early in the last century along the river frontage. The development continued within the area between Ferry Lane and Rainham Creek and along Coldharbour Lane.

The three main chemical industries to be found in the area were Murex, Thames Nitrogen and Albright and Wilson. Since this time most of the chemical industries have declined with sites either being redeveloped for warehousing or left undeveloped obviously leaving sites potentially contaminated. Much of the Ferry Lane area is occupied by low-tech uses such as vehicle breaking, open storage and waste transfer.

In the 1930s Ford opened its car plant at Dagenham which expanded into Havering. The car assembly plant has ceased production and major changes are proposed, including the redevelopment of land in Havering. This area is now a focus for regeneration via the Thames Gateway London Partnership including both light industry and residential development.

The riverside marshes have been used extensively for waste disposal – mainly waste from central London brought down the Thames by barge, but also Thames dredgings. This started in the 1860s at Coldharbour Point but expanded to include extensive areas on both sides of Rainham Creek and still continues along parts of the river frontage. Tipping of waste is due to last until about 2018, the deposit of dredgings could last much longer. Much of the waste disposal was regulated under the Essex County Council Act 1933 or subsequent waste management legislation however, there is still the possibility of significant contamination being present in these areas.

The Romford brewery was established at the end of 18 century, but closed in 1995. The site has now been redeveloped for retail and residential uses. Two railway lines cross the borough established in the mid 1800s: the Great Eastern main line to Norwich and the London Tilbury Southend (LTS) Railway. Industry and sidings were established along these links but are now largely redundant. There has also been industrial development along transport corridors such as the A12 and A1306 (former A13) in particular light industry warehousing and distribution. In recent years there has been a switch to retail outlets, especially along the A12.

There were extensive deposits of river terrace sand and gravel mainly in the south of the borough between Rainham and Upminster. Between the 1930s and 1970s significant amount of extraction was undertaken with the resultant holes being infilled with waste materials. Many sites were poorly restored and there was largely no control over the types of wastes deposited or over the way the site was engineered to deal with leachate and landfill gas. The rate of working has declined significantly over recent years and there are now only two operational sites. In other parts of the borough there is a history of clay extraction for brick making. Most of these sites are in the Green Belt where there are less likely to be impacts on residential areas or conflicts with redevelopment proposals. However, there is the possibility of contaminants affecting natural resources, such as watercourses and natural habitats.

2.3 Land Owned by the Council

Havering Council has relatively extensive holdings within the borough with responsibilities for the land spread amongst the various services and the following examples are given:

- Council offices and depots
- Council-owned housing stock and commercial property
- Council-owned former landfill sites
- Schools and playing fields
- Social Services buildings /homes
- Sport centres and their playing fields
- Public parks and allotments
- Highways, service roads and footpaths

- Havering Riverside,
- Havering & Hornchurch Country Parks
- Cemeteries and a crematorium

This Strategy will follow the same procedure for contaminated land inspection for both Council and non-Council owned land. There is the likelihood that Council owned land may have had contaminative uses in the past.

2.4 Current Land Use Characteristics

As previously mentioned there are extensive industrial areas within the borough mainly to the south. The borough has some major historic industrial activities, such as;

- Aluminium Foundry Process
- Food Processing
- Magnet manufacture
- Rail welding specialists
- LPG storage terminal
- Window and door manufacture
- Natural gas holders
- Waste transfer and landfilling
- Furniture manufacture

Medium to smaller industries operating within the borough include;

- Three sewage treatment works
- Vehicle respraying
- Freight storage and distribution
- Metal recycling
- Steel holding and processing
- Waste paper processing
- Concrete batching

2.5 Protected locations

There are three Sites of Special Scientific Interest (SSSIs) in the borough. These are Ingrebourne Marshes, Inner Thames Marshes and Hornchurch Cutting.

There are also seven Local Nature Reserves: Ingrebourne Valley, The Manor, The Chase, Cranham Brickfields, Cranham Marsh, Bedfords Park and Rainham Marshes. Further to this there are Sites of Metropolitan Importance, Sites of Borough Importance Grades 1 and 2 and Sites of Local Interest within the Borough. Such sites could potentially be harmed by contamination, in particular from surface water contamination.

2.6 Key Property Types

Havering has a rich historic environment with 140 Listed Buildings. These are made up of 6 grade I, 15 grade II* and 119 grade II. Further buildings are added to the statutory list from time to time. There are 11 designated conservation areas within Havering. There are three scheduled ancient monuments in the borough. In addition, there are extensive areas of archaeological interest.

2.7 Key Water Resource and Protection Issues

Essex and Suffolk Water Company supply Havering's drinking water, although some drinking water originates from Thames Water Utilities and put into supply at the Chigwell works. They have a number of underground reservoirs/storage facilities for potable water situated on the south side of Lower Bedfords Road and to the south of Broxhill Road in Bedfords Park.

There are approximately 25 (2010 data GIS overlay) licensed abstractions within the Havering area, none of which are for public supply. The majority are for spray irrigation and agricultural uses with a small number for sand and gravel washing. There are no known unlicensed abstractions or private water supplies within our area. There is also a well station situated within the borough off Dagenham Road, South Hornchurch. This is known as Dagenham Well and is situated at grid reference E550885, N184257. The well is licensed for the abstraction of potable water and draws from the chalk aquifer. It is a standby source that would be used typically during drought conditions. The well has not been used for public supply since approximately the mid 1980's.

The protection of controlled waters is one of the major issues associated with Havering. There are four distinct watercourses in Havering (please refer to Figure 101):

- The River Beam forms a part of the western boundary of the borough with the London Borough of Redbridge to the West. It has three tributaries; the River Rom (which flows through Romford) and Blacks Brook and further south the River Ravensbourne whose confluence is south of Romford.
- The Ingrebourne, including its tributaries the Weald Brook and the Paines Brook, drain the centre, east and north of the borough;
- The River Mardyke drains the eastern area of the borough although for most of its length it flows through Thurrock, outside Havering;
- The final watercourse is the River Thames into which the above watercourses drain. This forms the southern boundary of the borough.

2.8 Geology

The bedrock underlying the majority of The London Borough of Havering is London Clay. The valley heads of the Rivers Rom/Beam and Ingrebourne are characterised by **Lowestoft Formation** capping tertiary deposits. On the high ground in this area the geology includes **Bagshot Formation** and **Claygate Member** beds which cap the London Clay. In the Collier Row, Chase Cross and Harold Wood areas there are outcrops of London Clay with a few patches of **Lowestoft Formation** still evident on the valley sides of the River Ingrebourne.

South of this in the Dagenham, Romford and Rainham area terrace gravels (Taplow Gravel Member) and flood plain gravels are to be found capping the London Clay. In addition to the **Taplow Gravel Member**, **Black Park Gravel Member**, **Hackney Gravel Member**, **Lynch Hill Gravel Member** and **Boyn Hill Gravel Member** are also present and all are constituent parts of the Thames Valley Formation. There are also deposits of Alluvium, Head, Glaciofluvial deposits, Glaciolacustrine deposits and Ilford Silt Member. The Beam and Ingrebourne catchments are dominated by clay based soils, which are seasonally waterlogged.

There is considerable heterogeneity with regard to the thickness of the London Clay, and therefore the protection it provides will be location dependent. Especially adjacent to River Thames the thickness of London Clay decreases, being totally absent in some places. Instead, formations such as the Lambeth Group or superficial alluvial deposits are present at the surface.

2.9 Hydrological Characteristics

The River Beam rises as the Bourne Brook in the rural area north of Romford (Stapleford Abbots). After a few miles the watercourse becomes the River Rom, flowing southwards through the urban catchment areas of Havering-atte-Bower and Collier Row and being joined by numerous small tributaries. Once in Collier Row the Rom flows through Romford Town centre, largely in a culvert, emerging as the Beam where it meets the River Ravensbourne (Harrow Lodge Park). It then flows in an open channel southward towards the Ford Motor works, following the boundary of Havering with Barking and Dagenham, draining into the Thames within that site.

The River Ingrebourne rises as the Weald Brook, which flows south from northwest of Brentwood meandering through clay catchment, becoming the Ingrebourne south of the A12 near Harold Wood. The River flows until it emerges at Hornchurch Country Park and meanders southwards towards the A13. Once south of this major road the River becomes Rainham Creek, which discharges into the Thames via Frog Island sluices.

The Ingrebourne and the Beam are both 'flashy' rivers, principally because urban run-off accounts for a large proportion of their prospective flows. The lower reaches of both rivers are tidally influenced.

The chemical and biological water quality of the rivers in Havering has been historically poor – particularly the Ingrebourne and the Rom/Beam which have poor ecological status under the Water Framework Directive (WFD). The Environment Agency is the lead authority on the WFD and has classified the ecological quality of the designated water bodies in the borough as follows:

Water Course	2009 Classification Status
The Raversbourne	Moderate
West branch of the Mardyke	Moderate
River Ingrebourne	Poor
River Mardyke	Poor
River Rom	Poor

Improvement of these standards and protection of river quality from contamination is therefore one of the objectives of this Strategy.

2.10 Hydrogeology

The Water Framework Directive (WFD) introduced a comprehensive river basin management planning system to help protect and improve the health of the water environment. Havering falls across the Thames River Basin District. The Thames River

Basin Management plan requires the restoration and enhancement of water bodies to prevent deterioration and promote recovery of water bodies. Any proposed activity needs to ensure that it does not:

- Cause deterioration of a quality element to a lower status class and/or prevent any ongoing recovery.
- Result in failure of the prevent or limit objective for groundwater
- Cause rising trends in chemicals in the water body

The main groundwater bodies in Havering are:

- Essex gravels (GB40503G000400) thin outcrops present in the east (Current status: poor).
- South Essex Lower London Tertiaries (GB40602G401000) out cropping in the south adjacent to the Thames (Current status: good).
- Greenwich Tertiaries and Chalk (GB40602G602500) out cropping in the south west adjacent to Thames (Current status: poor).
- South Essex Thurrock Chalk (GB40601G401100) located adjacent to the Thames at the Aveley Marshes (Current status: poor).
- Upper Lea Chalk (GB40601G602900) underlies the borough (Current status: poor).

Further information can be found on the GOV.UK website under River basin management plans:

<https://www.gov.uk/government/collections/river-basin-management-plans-2015>

Further information about the WFD and how groundwater protection and betterment is achieved can be found in the Environment Agency's guidance document Groundwater Protection: Principals and Practice (GP3):

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297347/LIT_7660_9a3742.pdf

It should be noted that all aquifers are subject to the objectives set out by the WFD. Aquifers are characterized according to their importance as sources of groundwater, for both anthropogenic and ecological purposes, which is a product of their physical properties. These are Principal (regionally the most important), Secondary A and B, Secondary undifferentiated and unproductive strata. The London Borough of Havering contains a number of each of these different types.

The Chalk has been classified as 'Principal', while the Taplow Gravel Member, which overlies the London Clay in the southern part of the borough, has been classified as a 'Secondary A Aquifer'. The Black Park Gravel Member, Hackney Gravel Member, Lynch Hill Gravel Member and Boyn Hill Gravel Member, as well as the Lambeth Group and the Thanet Formation are also 'Secondary A Aquifers'. These aquifers will in places be in hydraulic continuity with the underlying Principal Aquifer in the Chalk.

The London Clay has been classified as 'unproductive strata'. This classification applies where the physical properties of the deposit transmit groundwater at such slow velocities that they are not suitable for groundwater supply purposes. It should be noted that the thickness of the London Clay can vary significantly, and as such may still allow downward movement of water into underlying aquifers such as the Lambeth Group.

2.11 Areas of naturally metal enriched soils

British Geological Survey in collaboration with Rothamsted Research and Soil Resources Institute funded by Natural Environmental Research Council have produced a soil geochemical atlas for England and Wales. This atlas will help understand the natural or geogenic concentration of elements in soil and assist in determining whether, and the extent to which, soil may have been contaminated by anthropogenic activities. Havering will consult this atlas in order to understand the background concentration of chemicals in soil.

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3. Aims, Objectives and Priorities

3.1 Aims and Objectives

The aims of Havering Council's Contaminated Land Inspection Strategy are:

- to ensure compliance with Part 2A of the Environmental Protection Act 1990 (as amended) and;
- to identify and remove unacceptable risks to human health and the environment (including controlled waters) associated with contaminated land.

Havering Council has taken account of the principles of the Statutory Guidance in developing its approach and compliance will be achieved through the following objectives:

- (a) To continue with the identification of contaminated land in a rational, ordered and efficient manner which reflects any local circumstances;
- (b) To provide a strategic framework for the identification, inspection and determination of contaminated land;
- (c) To prioritise areas of land it considers likely to pose the greatest risk to human health or the environment (including controlled waters);
- (d) To deal with urgent sites as they come to the attention of the authority;
- (e) To assess development proposals through the planning regime, in order to ensure that the proposed site is suitable for its new use, in accordance with the National Planning Policy Framework;
- (f) To encourage voluntary action to deal with land contamination issues as far as it considers reasonable and practicable;
- (g) To continue with the effective procedures for communication, liaison and information exchange within the council and with third parties;
- (h) To inform the public of the Council's intentions in relation to contaminated land;

3.2 Priorities

Havering Council's priorities when dealing with contaminated land will be:

- a) to protect human health;
- b) to protect controlled waters;
- c) to protect designated ecosystems;
- d) to prevent damage to property;
- e) to prevent any further contamination of land;
- h) to maintain consistent approach when inspecting and managing contaminated land.

4. Broader Approach to Dealing with Land Contamination

4.1 Interaction with other Regimes

In the fulfilment of its many functions, Havering Council also deals with contaminated land using other regulatory actions as detailed within sections 4.1.1 to 4.1.6 below. Where a site is already regulated, there will generally be no need to apply Part 2A. Should Part 2A inspections provide evidence that a breach of another pollution prevention regime is occurring, action will normally be taken under this regime.

4.1.1 Planning and Development

In its function as the Local Planning Authority, Havering Council is responsible for regulating development and land use under the Town and Country Planning Act 1990. In accordance with paragraphs 120 and 121 of the National Planning Policy Framework 2012, as well as policy 5.21 of the London Plan (March 2016), local planning authorities have to consider the implications of contamination when developing local plans and when considering applications for proposed developments. The planning regime addresses the risks in relation to future use of land and where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and / or landowner.

Within this framework, when considering development proposals, Havering Council seeks to ensure that the proposed site is suitable for its new use taking account of ground conditions. Where necessary, a planning condition will be attached that requires the developer and / or landowner to follow a staged process of risk assessment to demonstrate that contamination has been effectively considered and dealt with in accordance with legislation, current guidance and good practice to demonstrate that the development is suitable for its intended use.

Many contaminated sites have already been dealt with through the application of planning controls during redevelopment. Any remediation agreed as a planning condition will be dealt with under planning controls and not under Part 2A.

4.1.2 Environmental Permitting

The Environmental Permitting Regulations 2010 (as amended) are designed to minimise the impact from potentially polluting activities. Many industrial installations fall under the environmental permitting regime. This regime is enforced by the Environment Agency for A1 activities and the Council for A2 (LA-IPPC) and part B (LAPPC) activities.

Facilities regulated under the Environmental Permitting Regulations where there may be a significant risk to land or groundwater are required to carry out a site condition report to ascertain the baseline conditions of the land before being granted an environmental permit. Should the operator cause contamination of the site by breaching conditions of the permit, the operator is required to remediate the land so that it is returned to its original baseline condition.

4.1.3 Building Regulations

The Building Regulations 2010 introduced the requirement for reasonable precautions to be taken to avoid danger to health and safety caused by contaminants on or in the ground covered, or to be covered by the building and any land associated with the building.

The building control function has an increasingly important role in securing a safe development with the rising number of developments being constructed using permitted development rights that do not require planning permission. Where contamination potential exists, measures are required to be taken to protect new buildings and their future occupants from any unacceptable risks of contamination, including hazardous ground gases.

4.1.4 Pollution of Controlled Waters

The main pieces of legislation which aim to protect water resources are the Water Resources Act 1991, the Water Act 2003, the Water Framework Directive, **Directive 2006/118/EC** and the Environmental Permitting Regulations 2010.

Section 161 of the Water Resources Act 1991 gives the Environment Agency powers to take action to prevent or remedy the pollution of controlled waters. However where pollution of controlled waters arises from substances in, on, or under land, there is an overlap between these powers and the Part 2A regime. It has been determined that where contaminated land is polluting or has the potential to pollute controlled waters then remediation will be brought about under Part 2A by the Council, through consultation with the Environment Agency.

Where there is historical pollution of groundwater, but where Part 2A does not apply, remediation will be carried out by the Environment Agency under the Water Resources Act. This may occur, for example, where the pollutants are entirely contained within the relevant body of groundwater or where the 'source' site cannot be identified.

4.1.5 Environmental Damage Regulations

The Environmental Liabilities Directive is implemented in the UK by the Environmental Damage (Prevention and Remediation) Regulations 2009. They are intended to deal with the most serious cases of environmental damage caused by economic activities. The emphasis is on preventing and remedying environmental damage and not enforcement.

Environmental damage as defined by the regulations includes contamination of land that results in a significant risk of adverse effects on human health, as well as damage to species and habitats and damage to water. The enforcing authority must establish whether damage is 'environmental damage' and identify a responsible operator in order to serve a remediation notice taking account of any measures proposed by the operator.

4.1.6 Waste Management Licensing

All waste disposal and processing sites are subject to licensing under Part 2 of the Environmental Protection Act 1990 (as amended by the Environmental Permitting (England and Wales) Regulations 2010). Contamination causing significant harm or

pollution of controlled waters should be dealt with as a breach of a condition of the licence or permit rather than through Part 2A. Where a waste site has been unlicensed, or where the waste licence has been surrendered under the Control of Pollution Act 1974 regime, potentially these sites could be contaminated land and would be dealt with under the Part 2A regime as contaminated land.

4.2 Minimising Unnecessary Burdens

Havering Council is mindful that the Part 2A regime should only be used where no appropriate alternative solution exists and that other legislative regimes may provide a means of dealing with land contamination issues. The Council continues to actively seek remediation of sites via the planning regime when development of a potentially contaminated site is proposed. It is also committed to securing voluntary remediation of sites wherever possible and so undertakes full liaison with site owners during all stages of investigation.

Where decisions are not straightforward, Havering Council will take a precautionary approach and judgement shall be used on a case by case basis, taking account of local circumstances, to achieve a reasonable balance between (i) dealing with risks raised by contaminants in land and the benefits of remediating land to remove or reduce those risks; and, (ii) the potential impacts of regulatory intervention including financial costs to whoever will pay for remediation (including the taxpayer where relevant), social impacts, health and environmental impacts of taking action, property blight, and burdens on affected people.

5. Approach to Strategic Inspection

5.1 The Inspection Procedure

In order to identify potentially contaminated land, it is first necessary to identify those land uses, past and present, which have the potential to give rise to contamination. It is also necessary to identify relevant receptors, so that contaminant linkages can be assessed in light of the current use of a particular site. The first stage therefore of strategic inspection is to gather information on potentially contaminative land uses (i.e. sources of contamination), receptors, and pathways from a variety of sources. This stage is followed by a risk based prioritisation to identify firstly sites where one or more potential contaminant linkages exist and secondly to rank these sites in priority from high to low for further inspection.

5.2 Information Collection

5.2.1 Information on sources of contamination

In order to identify potentially contaminated land, it is first necessary to identify those land uses, past and present, which have the potential to give rise to contamination. The following data has been collated for this purpose:

Dataset	Source
Maps (historical & present day)	Landmark Information Group / Ordnance Survey
Historical potentially contaminative uses, historical petrol stations, tanks and energy facilities	Landmark Information Group
Historic landfill sites	Environment Agency (27 June 2007)
Authorised landfill sites	Environment Agency
Authorised waste treatment sites	Environment Agency
Integrated pollution control sites (IPC, IPPC)	Environment Agency
Pollution incidents	Environment Agency
Industrial processes	Havering Council

5.2.2 Information on pathways and receptors

After having identified all potentially contaminative land uses within the borough, it is also necessary to identify relevant pathways and receptors, so that contaminant linkages can be assessed in light of the current use, as well as of geology and hydrogeology of a particular site. Havering Council has collected the following data:

Dataset	Source
Geology (solid, drift, artificial, mass movements)	British Geological Survey
Boreholes and wells	British Geological Survey
Groundwater vulnerability	Environment Agency
Licensed water abstractions	Environment Agency

Source Protection Zones	Environment Agency
Sites of Special Scientific Interest (SSSI)	Natural England
Conservation areas	Natural England
Nature reserves	Natural England
Land use (e.g. residential, schools, recreational land etc.)	Havering Council

5.2.3 Planning records

Havering Council holds information submitted as part of the planning process. As described in section 4.1.1, the Council may attach a condition to a planning permission, requiring the developer and / or landowner to follow a staged process of risk assessment to demonstrate that contamination has been effectively considered and dealt with. Within this context, Havering Council has received and assessed desk studies, site investigation reports and remediation reports for a number of sites within the borough.

This information contained in planning records forms a valuable resource, along with the information mentioned in sections 5.2.1 and 5.2.2 above. Many potentially contaminated sites which would normally be subject to further investigation have already been dealt with through the planning regime.

5.3 Information Evaluation and Prioritisation of Detailed Inspection

A geographical information system (GIS) has been used by Havering Council to create a spatial database, which enables the interrogation of multiple data sets and GIS overlays, to manage the large amounts of environmental data gathered and compile a database of potentially contaminated sites which are then subject to prioritisation for further detailed inspection. When sufficient information and understanding of the site conceptual model provides confidence that the land is not, or might not, meet the definition of contaminated land under Part 2A of the Environmental Protection Act 1990, the site can then be removed from the prioritised list.

Since the publication of the 2004 Strategy, and following gathering of the above mentioned environmental information on sources of contamination, pathways and receptors, sites have been initially assessed and prioritised in accordance with the Contaminated Land Report (CLR 6) – 'Prioritisation and categorisation procedure for sites which may be contaminated', using the ArcGIS software programme and the ConSEPT (Contaminated Site Evaluation and Prioritisation Tool) software tool. This prioritisation has provided a list of approximately 400 potentially contaminated sites ranked in priority from high to low for further inspection.

Under this Strategy, the Council will continue its risk based approach to assess potentially contaminated sites and investigate in accordance with the prioritised list of sites for further inspection. The prioritised list is programmed for review from within 2017 and will involve the following areas of work:

- (1) Review and update GIS overlays if / as appropriate;
- (2) Rerun ConSEPT with updated GIS overlays and get updated risk scores for all potentially contaminated sites;

(3) Review planning records (including desk studies, site investigation reports and remediation reports), and any other information which may have become available and reassess the risk scores on a site by site basis for all receptors including groundwater.

5.4 Deviation from the Prioritisation of Detailed Inspection

During the process of prioritisation, sites which were not given a high priority or were not identified as potentially contaminated may be suspected of causing significant harm as a result of land contamination. Certain events may trigger a change to the priority ranking, such as

- Unforeseen pollution incidents (e.g. accidents, spillages);
- Changes in circumstances
 - Changes in land use (this will normally be dealt with through the planning process);
 - Alterations of pathways (e.g. disturbance of site, change in groundwater levels, alteration of surface waters, introduction of pipelines);
- New information which changes the potential risk of the site;
- Complaints from members of the public, local community, businesses;
- Changes to legislation and revision of guidance;
- Changes to scientific knowledge (e.g. change of criteria on the hazards and toxicity of a substance may change the level of risk posed by this substance and may therefore lead to reassessment of particular sites).

6. Approach to Detailed Inspection

6.1 Activities of Detailed Inspection

Once sites have been categorised, as described in paragraph 5.3, detailed inspection will be then required to establish the presence or otherwise, of contaminant(s) and linkage(s). The aim of the detailed inspection is to gather site specific information on ground conditions and carry out appropriate risk assessments, to help determine whether there is significant harm or a significant possibility of significant harm occurring, significant pollution of controlled waters or significant possibility of such pollution being caused.

The process of detailed inspection will follow the requirements of the Statutory Guidance and may include the following activities:

- A review of all documentation relevant to the site, including a thorough review of the site history and activities on and in the vicinity of the site, past and present (desk study);
- A site visit and walkover survey for visual inspection to identify the proximity of potential contaminative sources and receptors and possibly limited sampling to determine the likelihood of contamination/pathways being present;
- A preliminary risk assessment and development of a conceptual site model based on the desk study and walkover survey, to identify potential contaminant linkages being present and determine whether further intrusive site investigation and more detailed risk assessment are needed;
- An intrusive site investigation, involving the sampling and analysis of soils and / or groundwater and / or gas monitoring, to characterise actual or potential contaminant linkages;
- A detailed risk assessment to determine the presence or otherwise of one or more significant contaminant linkages.

6.2 Desk Study and Preliminary Risk Assessment

The first phase of detailed inspection comprises a predominately desk based exercise. At this stage all information on sources of contamination, pathways and receptors, as well as all planning records and any other available information relevant to the top priority sites (i.e. sites with highest priority on the list) will be reviewed and evaluated. A site walkover will be undertaken as part of this phase to verify the current land use and develop a thorough understanding of the site and adjacent areas. Limited sampling may also be carried out if it is considered necessary. The purpose of this phase is to develop a conceptual site model and identify potential contaminant linkages being present.

Having Council aims to undertake desk studies and preliminary risk assessments for the 15 highest risk sites (three per annum) of the prioritised list from 2017 to 2021.

6.3 Intrusive Site Investigation

Any land identified in a preliminary risk assessment as having the potential for one or more significant contaminant linkages to exist will require a detailed investigation, i.e.

intrusive site investigation and risk assessment, to determine the nature and extent of any contamination on a site. The sampling and analysis of soil, water and/or ground gases may be required to assess the amount of contamination present. A risk assessment will then be carried out to determine whether any significant contaminant linkage exists.

Since the publication of the 2004 Strategy, three sites of high priority, which were former unlicensed landfill sites, have undergone detailed inspection due to the conceptual site model identifying potentially significant contaminant linkages with receptors from soil contamination, landfill gas and leachate. Extensive site investigation works were funded by capital grants from Defra and work was undertaken on the sites between 2007 and 2014. The inspections included both desktop studies and several stages of intrusive site investigation and risk assessments. To date the land at four residential properties has been found to meet the statutory definition of contaminated land within the borough, while the investigation of three properties continues.

In December 2013, Defra announced that from 1st April 2017 they will no longer be supporting the cost of investigating and remediating contaminated land under Part 2A through the Contaminated Land Capital Grants (CLCG) Programme. The Council has been awarded a grant for the remediation of the four properties declared as contaminated land.

The primary method of intrusive site investigation (and remediation if required) will be through redevelopment under the planning regime. Decisions to carry out intrusive site investigations on other sites will be taken on a site specific basis, taking into consideration the potential risk posed to human health and the environment and the resources available for this work at that time.

6.4 Statutory Powers of Entry onto Land

Section 108 of the Environment Act 1995 (as amended) provides the Council with powers to enter, or to authorise in writing, other "suitable persons" to enter premises to carry out an inspection of the land – known as 'inspection using statutory powers of entry'.

Where Havering Council is arranging an intrusive investigation of a site, the Council will serve a notice on the site owner/occupier giving at least 7 days' notice of the date of the investigation to residential occupiers and to occupiers of land. Consent to enter must be obtained from the landowner/occupier and if refused, access to investigate will be obtained by warrant under Schedule 18 of the Environment Act 1995.

7. Determination and Remediation of Contaminated land

7.1 Determination of Contaminated Land

Havering Council has the responsibility for determining whether land within its jurisdiction is contaminated land. The starting assumption for any site is that land is not contaminated land unless there is a reason to consider otherwise.

When following a detailed inspection there is little or no evidence to suggest that a site meets the statutory definition of contaminated land, Havering Council will issue a written statement to the land owners and other interested parties, explaining the rationale behind this decision.

When it is likely that the land in question may be determined as contaminated land, Havering Council will first produce a risk summary, explaining the Council's understanding of the risks and other relevant factors.

7.1.1 Significant Harm to Human Health

Following completion of an appropriate scientific and technical assessment of all available and relevant evidence and if Havering Council is satisfied on the balance of probabilities that significant harm is being caused (i.e. that it is more likely than not that such harm is being caused) by a significant contaminant(s) on a site, it can be determined that the site is contaminated land.

In cases where Havering Council considers that

- (i) harm is occurring but it is not significant harm;
- (ii) significant harm may be being caused or is likely to have been caused in the past;
- (iii) there is a significant possibility that significant harm may happen in the longer term;

Havering Council will consider whether to determine the land on grounds of significant possibility of significant harm, as described in the following section.

7.1.2 Significant possibility of significant harm to human health (SPOSH)

In deciding whether or not land is contaminated land on grounds of significant possibility of significant harm (SPOSH) to human health, Havering Council will use the categorisations described below:

Category 1: significant possibility of significant harm exists. Land will be deemed to be a Category 1 case where (a) there is evidence of similar land or situations to have caused such harm; (b) similar levels of exposure to the contaminants of concern have resulted in significant harm; (c) there is evidence of significant harm having already occurred.

Category 2: land is capable of being determined as contaminated land. Land will be placed into Category 2 where there is a strong case that the risks from the land are of sufficient concern, that the land poses a SPOSH. When little or no direct evidence of similar land exists, land may still be placed into Category 2, where the Council considers that there is a strong case for taking action under Part 2A on a precautionary basis.

Category 3: land is not capable of being determined as contaminated land. Land will be placed in Category 3 where a strong case that the land poses a SPOSH does not exist. Category 3 may also include land where the risks are not low, but nonetheless Havering Council considers that regulatory intervention under Part 2A is not warranted.

Category 4: no or low level of risk is identified. Land will be placed into Category 4 where (a) no relevant contaminant linkage has been established; (b) normal levels of contaminants are identified; (c) contaminant levels do not exceed relevant generic assessment criteria; (d) exposure from a contaminant forms a small proportion of overall exposure to that contaminant from other environmental sources.

7.1.3 Significant harm and significant possibility of such harm (non-human receptors)

In considering non-human receptors, Havering Council will only regard the following ecological systems and types of properties, as defined in the Statutory Guidance:

- site of special scientific interest (SSSI);
- a national nature reserve;
- a marine nature reserve;
- a Special Protection Area;
- a Special Area of Conservation;
- a “European site” within the meaning of regulation 8 of the Conservation of Habitats and Species Regulations 2010;
- a Ramsar site;
- any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949;
- Crops, including timber;
- Produce grown domestically, or on allotments, for consumption;
- Livestock;
- Other owned or domesticated animals;
- Wild animals which are subject to shooting or fishing rights;
- Buildings.

Havering Council will follow the Statutory Guidance when considering whether significant harm or a SPOSH to the above receptors is posed by a site.

7.1.4 Significant pollution of controlled waters and significant possibility of such pollution

When establishing whether significant pollution of controlled waters is being caused, or whether there is a significant possibility of such pollution being caused, Havering Council will have regard to any technical guidance issued by the Environment Agency. If the Council considers it likely that land might be contaminated land on such grounds, it will consult the Agency and have strong regard to the Agency’s advice prior to any determination made.

7.2 Remediation

Once the land has been determined as contaminated land, as described above, and in accordance with the procedures of the Statutory Guidance, Havering Council will consider how that land should be remediated.

The broad aim of remediation should be (a) to remove identified significant contaminant linkages, or permanently disrupt them, to reduce risks below an unacceptable level; and/or (b) to take reasonable steps to remedy harm or pollution caused by a significant contaminant linkage. Remediation may involve a range of treatment, assessment and monitoring actions to secure the overall remediation of the land.

Havering Council will encourage voluntary remediation and will work with the appropriate person(s) to secure the informal remediation of contaminated land without the need for a formal notice. Where agreement is reached for voluntary remediation, the persons responsible for carrying out the remediation works will be required to prepare a remediation statement.

If voluntary remediation is not agreed or undertaken, a remediation notice will be served on the owner/occupier or appropriate persons as required, specifying the necessary remedial action. Havering Council will only require reasonable remediation action in a remediation notice. In deciding what is reasonable, the Council will consider various factors, having particular regard to: (a) the practicability, effectiveness and durability of remediation; (b) the health and environmental impacts of the chosen remedial options; (c) the financial cost which is likely to be involved; and (d) the benefits of remediation with regard to the seriousness of the harm or pollution of controlled waters in question.

7.3 Determining Liability

Land may be declared contaminated land upon the identification of one significant contaminant linkage. Full liability therefore cannot be decided until all significant contaminant linkages on the site have been identified. Only then can the procedure relating to the apportionment of liability commence. The apportionment of liability has five distinct stages as follows:

- Step 1: Identifying potential appropriate persons and liability groups
- Step 2: Characterising remediation actions
- Step 3: Attributing responsibility to liability groups
- Step 4: Excluding members of a liability group
- Step 5: Apportioning liability between members of a liability group

These procedures are complex and will be undertaken in accordance with the Statutory Guidance.

8. Management Procedures

8.1 Introduction

Public Protection within the Council is responsible for implementing Part 2A of the Environmental Protection Act 1990 and has the lead role in producing, updating and implementing the Contaminated Land Inspection Strategy. These statutory duties will be carried out by the Environmental Protection Officers designated for this work.

The Designated Officers will attend training and regular professional meetings to maintain competency and share best practice.

8.2 Consulting Legal Services

Legal Services provide advice and guidance for the enforcement side of Havering Council's varied duties as well as providing legal advice in relation to Council business. They will be consulted in relation to the legal aspects of land contamination and land transactions.

8.3 Health and Safety

Prior to carrying out site work, a health and safety risk assessment will be undertaken in accordance with Havering Council's health and safety policies and procedures. All necessary control measures highlighted in the risk assessment will be implemented prior to the commencement of site works and will be reviewed during the works.

Where contractors are engaged by Havering Council to carry out intrusive site investigations, they are required to produce a method statement, which includes details of their health and safety arrangements and procedures in accordance with the Construction (Design and Management) Regulations 2015.

8.4 Use of consultants

If detailed / intrusive site investigations or remediation are deemed necessary, the Council may use suitably qualified consultants to carry out these works on their behalf. If consultants are required, they will be procured in accordance with the Council's Contract Procedure Rules, the award is however normally subject to the Council obtaining the relevant and appropriate funding for the works.

8.5 Local Authority Interests in Land

Havering Council owns and has owned a considerable amount of land within the borough, much of which is managed by a number of different departments and directorates.

In undertaking the role as contaminated land authority, the Council will develop and implement a prioritisation model for inspections based on an objective risk assessment of all land within the borough irrespective of ownership. If, following the site prioritisation procedure, land under Authority responsibility is potentially contaminated then internal arrangements will be made to establish who, within the Council, bears responsibility. The procedure used will be accountable and transparent to prevent any conflict of interest.

Havering Council has a duty to ensure people occupying or using Council's owned land are not exposed to harmful concentrations of contaminants. In addition, there is the potential that some of the activities that have taken place on Council owned land may have the potential to give rise to pollution. This may result in Havering Council being liable for the cost of remediation of that land in the event a significant contaminant linkage is present.

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9. Information Management

9.1 Introduction

Considerable amounts of information relating to land contamination matters have been gathered throughout the Part 2A process of identification, prioritisation, strategic and detailed site inspection work from a variety of sources. This process is ongoing. Havering Council aims to store information in such a manner that, information can be easily accessible, manageable and consistent.

9.2 Information and Complaints

Havering Council receives information and complaints regarding potentially contaminated land and pollution in the borough from members of the public, landowners, other departments of the Council and external agencies from time to time, including anonymously supplied and anecdotal information.

Upon receipt of information or a complaint regarding land contamination or water pollution, an officer from Public Protection will acknowledge receipt of this within five working days. All information received will be recorded. The customer will be then contacted by an officer in order to verify the source and details of the information. Customers will be kept updated on actions taken.

9.3 Public Register

The Contaminated Land (England) Regulations 2006 requires the Council to maintain a register for Contaminated Land. The Contaminated Land Public Register will serve as a permanent record of all regulatory activity undertaken to ensure the remediation of any site, which has been determined to be contaminated land. The register includes specified details about the condition of the land, and the remediation actions carried out. Specifically, Schedule 3 of the Contaminated Land Regulations 2006 requires information to be kept on the register in respect of:

- Remediation notices;
- Appeals against remediation notices;
- Remediation declarations;
- Remediation statements;
- Appeals against charging notices;
- Designation of special sites;
- Notification of claimed remediation;
- Convictions for offences under section 78M of the Environmental Protection Act 1990;
- Guidance issued under section 78V(1) of the Environmental Protection Act 1990;
- Other matters prescribed by Regulations;

At the time of publication of this Strategy, the Public Register contains four entries.

9.4 Environmental Enquiries

Havering Council receives requests for information relating to the land quality of specific sites. The Council will respond to requests made by the public, solicitors or other interested parties on a site specific basis under the Environmental Information Regulations 2004. (EIR), which implement the Directive 2003/4/EC on Public Access to Information. These regulations require Havering Council to make any environmental information they hold available on request, subject to certain exemptions. A charge will be made for such requests and will be required as an advance payment before the information is provided.

Apart from responding to land quality specific questions, Havering Council can also provide Land Quality Reports upon request. A Land Quality Report provides environmental information on a chosen property within the borough. This information includes details regarding:

- Geology and hydrology
- Current and historical land uses on the selected property and within a specific radius area of the property
- Any current or former landfill, filled land, made ground and waste management facilities within 250 metres of the property
- Any current or former industrial or commercial land uses within 50 metres of the property
- Petrol stations, historical tanks, energy facilities and pollution incidents within a specific radius area of the property
- The nature and implications of these land uses
- Environmentally sensitive data such as pollution control sites and radioactive substances
- Sites of environmental importance such as conservation areas and listed buildings
- Copies of historical maps

This information will be assessed by a qualified member of staff and information from the Council's records and local knowledge will be included. Finally the current status of the property in relation to the Environment Protection Act 1990 Part 2A will be summarised. The current fees can be found on the Fees and Charges page of Havering Council's website.

9.5 Data Confidentiality

All information available to Havering Council will be stored, managed, shared and released in accordance with Council policies relating to the Data Protection Act 1998 and the Freedom of Information Act 2000. The Environmental Information Regulations 2004 set out specific provisions with regard to public access to environmental information, refusals to disclose, charging, disclosing and timescales.

With regard to requests for information in relation to the prioritised list of sites for future investigation, the Council will respond to questions on whether a site is included in the list as well as the level of priority (high, medium, low) assigned to the site. The exact place of a site on the prioritised list will remain confidential.

10. General Liaison, Communication and Review

10.1 Internal Liaison

The Environmental Protection Team will liaise throughout the inspection process with relevant sections of Havering Council, in particular Communications, Planning, Building Control and Legal Services. The Leader of the Council, Ward Councillors, the Cabinet Members for Regulatory Services and Community Safety, Environment, Housing, the Group Director of Community and Resources and the Head of Regulatory Services will be informed of site investigation works and the outcome of these works.

10.2 External Liaison

Public Protection will be the initial contact point within Havering Council on contaminated land issues and as such will liaise with all of the involved parties where it is required as early as possible throughout the inspection, site investigation and remediation stages. This will be regardless of whether or not there is a formal determination of contaminated land.

The Statutory Guidance states that developing an understanding of risks in complex cases may raise issues which are beyond the expertise of one person and may require the involvement of others to conduct a robust risk assessment. The question of whom to consult will depend largely on the circumstances of the land, and expertise and gaps in expertise of the person carrying out the risk assessment. Havering Council will liaise with the necessary Agencies as appropriate depending on the circumstances of the case. Where warranted Havering Council will consider employing the services of external consultants and legal representatives.

Havering Council will always consult with the Environment Agency when working through the risk assessment process whether significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused. The Council will also consult Public Health England when trying to establish through the risk assessment process whether significant harm is being caused or there is a significant possibility of such harm being caused. Natural England will be consulted when considering whether land might meet the definition of contaminated land by virtue of an ecological system effect.

10.3 Communication Strategies

Prior to site investigation works for the highest priority sites, Public Protection will develop communication strategies with the assistance of the Corporate Communications team as necessary.

The Council will proactively communicate the complex matters related to land contamination to those affected by it as early as practicable, in a clear and concise manner. Where it is deemed necessary for a detailed site investigation to be made, the reasons and need for the investigation will be provided to the owners and occupiers of the land and they will be kept informed at all stages of the process and be advised of the outcome of any intrusive investigation, and subsequent decision.

In determining whether any land meets the legal definition of contaminated land, Havering Council will not be based only on technical / scientific information, but will also

take into consideration financial, social and commercial implications, as well as potentially conflicting view points from different stakeholders.

10.4 Review and Consultation of the Strategy

Havering Council has a duty to keep its written Strategy under periodic review to ensure it remains up to date. It is intended that the Strategy will be reviewed every 5 years, to ensure that it is effectively meeting its aims and objectives, it reflects current practices, while being realistic and achievable. If significant changes to the Strategy are considered necessary, such findings will be reported including any recommendations to review the Strategy within that time. The next review of the Strategy is expected to be undertaken in 2021.

In developing the Strategy Havering Council has consulted with other regulators, statutory and other organisations and bodies that have an interest in land contamination and in the implementation of the Strategy. Details of contacts and contact addresses of the consultees used are listed in Appendix 2. A number of internal services within the Council were also consulted in the development of this Strategy.

11. References

Legislation and Guidance

Environmental Protection Act 1990

Environment Act 1995

The Contaminated Land (England) Regulations 2006

The Contaminated Land (England) (Amendment) Regulations 2012

Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (April 2012)

CLR Published Research Reports 1-15 including CLEA and RCLEA

Model Procedures for the Management of Land Contamination (CLR11) published by the Environment Agency; London (2004)

Soil Guideline Values (SGVs) published by the Environment Agency

Category 4 Screening Levels Documents for Human Health Risk (DEFRA, March 2014)

Contaminated Land Exposure Assessment (CLEA) tool (EA, 2009) & Guidance Documents

London Borough of Havering Policies and Strategies

Contaminated Land Inspection Strategy (Revision 01,)

Corporate Plan 2015-16

Local Development Framework: Core Strategy and Development Control Policies (2008)

Sustainable Community Strategy 2008-2013

Communications Strategy 2015-18

12. Glossary of Terms

Appropriate Person	Defined in section 78A(9) as 'any person who is an appropriate person, determined in accordance with Section 78F Part 2A to bear responsibility for anything which is to be done in any particular case'.
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	Refer to section 1.2.1 in chapter 1 of this Strategy.
Controlled Waters	Defined in section 78A(9) by reference to Part 3 (section 104) of the Water Resources Act 1991 and includes territorial and coastal waters, inland fresh waters and ground waters. Section 78A(9) was amended by section 86 of The Water Act 2003 so that for Part 2A purposes 'ground waters' does not include waters contained in underground strata but above the saturation zone.
Enforcing Authority	Defined in section 78A(9) as: 'a) in relation to a special site, the Environment Agency; b) in relation to contaminated land other than a special site, the local authority in whose area the land is situated'
Harm	Defined in Section 78A(4) as: 'harm to the health of living organisms other interference with the ecological systems of which they form part, and, in the case of man, includes harm to his property'. OR with respect to radioactive contamination defined in section 78A(4) (as modified) as: 'lasting exposure to any person/being resulting from the after effects of a radiological emergency, past practice or past work activity.'
Intrusive Investigation	An investigation of land (for example by exploratory excavations), which involves actions going beyond simple visual inspection of the land, limited sampling or assessment of documentary information.
Owner	Defined in section 78A(9) as: 'a person (other than the mortgagee not in possession) who, whether in his own right or as trustee for any other person, is entitled to receive the rack rent of the land, or, where the land is not let at a rack rent,

	would be so entitled if it were so let.'
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.
Pollution of controlled waters	Defined in section 78A(9) as: 'The entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter'.
Public Register	The public register maintained by the enforcing authority under section 78R of particulars relating to contaminated land.
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 reference in the Statutory Guidance (see appendix E) 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 or (c) a person subjected to lasting exposure resulting from the after-effects of a radiological emergency, past practice or past work activity.
Remediation	Defined in section 78A(7) 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 - (i) of 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) of 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." OR with respect to radioactive

	<p>contamination defined in section 78A(7)(as modified) as:</p> <p>(a) the doing of anything for the purpose of assessing the condition of -</p> <p>(i) the contaminated land in question; or</p> <p>(ii) any land adjoining or adjacent to that land;</p> <p>(b) the doing of any works, the carrying out of any operations or the taking of any steps in relation to any such land for the purpose -</p> <p>(i) of preventing or minimising, or remedying or mitigating the effects of any harm by reason of which the contaminated land is such land; or</p> <p>(ii) of restoring the land to its former state; or</p> <p>(c) the making of subsequent inspections from time to time for the purpose of keeping under review the condition of the land.</p>
Remediation Notice	Defined in section 78E(1) as 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 so specified.
Remediation Statement	Defined in section 78H(7). It is a statement prepared and published by the responsible person detailing the remediation actions, which are being, have been, or are expected to be done as well as the periods within which these things are being done.
Risk	The combination of:
	<p>(a) the probability, or frequency, of occurrence of a defined hazard (for example, exposure to a property of a substance with the potential to cause harm); and</p> <p>(b) the magnitude (including the seriousness) of the consequences.</p>
Significant Harm	Defined in section 78A(5). It means any harm which is determined to be significant in accordance with the Statutory Guidance in section 4 and 5.
Special Site	Defined in section 78A(3) as: any contaminated land -
	<p>(a) which has been designated as such a site by virtue of section 78C(7) or 78D(6)...; and</p> <p>(b) whose designation as such has not been terminated by the appropriate Agency under section</p>

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.

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13. Appendices

Appendix 1: Work programme and Timescales for 2017-2021

Task	Timescale
Whybridge site investigation: Remediation of land declared as contaminated land and further investigation of three properties.	Ongoing until end of 2017
Review of existing prioritised list	Ongoing until end of 2017
Consider planning applications in relation to land contamination	Ongoing
Undertake desk studies and preliminary risk assessments for the 15 highest-risk sites of the prioritised list	Ongoing
Carry out detailed intrusive site investigation & risk assessment work	As determined by the desk studies on the risk basis
Deal with land quality enquiries	As they arise
Deal with unforeseen urgent sites	As they arise

Appendix 2: List of Consultees

External Consultees

Environment Agency (NE Thames)
Groundwater, Hydrology & Contaminated Land Team
Apollo Court
2 Bishop Square Business Park
St Albans Road West
Hatfield
Hertfordshire. AL10 9EX
Email: enquiries@environment-agency.gov.uk

Natural England
Area 3A Nobel House,
17 Smith Square,
London
SW1P 2AL
Tel: 0300 060 1963
Email: consultations@naturalengland.org.uk

Public Health England
Centre for Radiation, Chemical and
Environmental Hazards
Skipton House, 80 London Road
London
SE1 6LH
Email: chemicals.london@phe.gov.uk

Food Standards Agency
Chemical Safety Division
Aviation House, 125 Kingsway
London
WC2B 6NH.
Tel: 0207 2768950, 0207 2768727
Email: cot@foodstandards.gsi.gov.uk

English Heritage
1 Waterhouse Square
138 - 142 Holborn
London EC1N 2ST
Tel: 020 7973 3000
Email: customers@english-heritage.org.uk

Thames Water
Environment and Quality
Gainsborough House (RBH2)
Manor Farm Road
Reading
Berkshire RG2 0JN
Tel: 0118 959 3720/3302

Greater London Authority
Spatial Development Strategy
City Hall
Queens Walk
London SE1 1AH
Tel: 02079834000

London Wildlife Trust
Dean Bradley House
52 Horseferry Road
London SW1P 2AF
Tel: 020 7261 0447
Email: enquiries@wildlondon.org.uk

Essex and Suffolk Water
Water Quality Manager
Sandon Valley House
Canon Barns Road
East Hanningfield
Chelmsford CM3 8BD

East London Waste Authority
1st Floor, Harvey House, St Edward's Court
London Road
Romford, RM7 9QD
Tel: 0208 724 5803
Email: elwaofficemanager@eastlondonwaste.gov.uk

London Borough of Barking & Dagenham
Environmental Health Service
Roycraft House
15 Linton Road
Barking IG11 8HE

London Borough of Redbridge
Lynton House
255-259 High Road
Ilford, Essex IG1 1NN
Tel: 020 8554 5000
Email: customer.cc@redbridge.gov.uk

London Borough of Bexley
Environmental Health
Civic Offices
2 Watling Street
Bexleyheath
Kent DA6 7AT
Tel: 020 8303 7777
Email: environmentalhealth@bexley.gov.uk

Brentwood Borough Council
Environmental Health Service
Town Hall
Ingrave Road
Brentwood CM15 8AY
Tel: 01277 312500
Email: hoehpps@brentwood.gov.uk

Thurrock Borough Council
Environmental Protection
New Road
Grays RM17 6SL
Tel: 01375 652955
Email: environmental.health@thurrock.gov.uk

Epping District Council
Environmental Health Service
Civic Offices
High Street
Epping CM16 4BZ
Tel: 01992 564608
Email: publichealth@eppingforestdc.gov.uk

Essex County Council
County Hall
Market Road
Chelmsford CM1 1QH
Tel: 0345 603 7624
Email: contact@essex.gov.uk

Internal Consultees

Director of Public Health
NHS Havering
12th Floor, Mercury House, Mercury Gardens
Romford.
RM1 3SL.

Chief Executive Department
Legal and Democratic Services
Town Hall
Romford RM1 3BD

Economic Development
Town Hall
Main Road
Romford RM1 3BD

External Relations Team
Town Hall
Main Road
Romford RM1 3BD

Planning Control
5th Floor Mercury House
Mercury Gardens
Romford RM1 3RX

Building Control Service
5th Floor Mercury House
Mercury Gardens
Romford RM1 3RX

Development & Transport Planning
Town Hall
Main Road
Romford RM1 3BD

Property Services
86 Market Place,
Romford RM1 3HQ