

North London Waste  
Authority

---

**Waste Infrastructure  
Development  
Programme**

---

Pinkham Way Site  
Planning Appraisal

November 2009

**Ove Arup & Partners Ltd**  
13 Fitzroy Street, London W1T 4BQ  
Tel +44 (0)20 7636 1531 Fax +44 (0)20 7755 2451  
[www.arup.com](http://www.arup.com)

This report takes into account the  
particular instructions and requirements  
of our client.

It is not intended for and should not be  
relied upon by any third party and no  
responsibility is undertaken to any third  
party

Job number 124572-00

North London Waste  
Authority

---

**Waste Infrastructure  
Development  
Programme**

---

Pinkham Way Site  
Planning Appraisal

REV B

ARUP

---

Job title	Waste Infrastructure Development Programme	Job number
		124572-00
Document title	Pinkham Way Site Planning Appraisal	File reference
Document ref		

---

---

Job title	Waste Infrastructure Development Programme	Job number
		124572-00
Document title	Pinkham Way Site Planning Appraisal	File reference
Document ref		

---

## Contents

	Page
1 Introduction	1
2 Assumed Development Parameters	2
3 Description of the Site	3
4 Environmental Aspects	6
5 Planning Policy	8
6 Planning Risk Assessment	19
7 Conclusions	24

# 1 Introduction

This report provides a desk-based assessment of the suitability of the site of the former Friern Barnet Sewage Treatment Works, Pinkham Way, for the development of a new residual waste treatment facility. The report identifies key aspects of the site which would affect the design and operation of the facility, reviews the main planning policies applicable to such a development on this site, and concludes with a set of factors which would need to be addressed in any scheme for the site.

The Pinkham Way site, which is located just inside the borough of Haringey along the North Circular Road (NCR), has been identified as a potential mechanical biological treatment site. The Authority is in the process of acquiring the site from the owners, the London Borough of Barnet.

## 2 Assumed Development Parameters

The waste facility being assessed is a 240,000 tonnes per annum (tpa) mechanical and biological treatment (MBT) facility which will accept pre-sorted and mixed (i.e. black bag) residual municipal solid waste (MSW). The site would produce a number of output streams, including sorted and bulked recyclate, solid recovered fuel (SRF), a liquid digestate, a solid compost-like material (CLM) and a methane-rich gas fuel (biogas). The SRF and gas fuel would be capable of combustion for the production of electricity and heat to supply the surrounding development areas; alternatively the outputs could be transported offsite for use in other industrial processes, combustion or disposal. Conventional incineration does not form part of the Authority's proposals for residual waste treatment.

There are a range of potential technology providers for MBT processing of waste, each of which would have somewhat different spatial parameters. The information provided in Table 1 below is intended to set a reasonable frame of reference for assessing the suitability of the site, rather than to provide a precise description of the development which would be proposed.

**Table 1. MBT Facility Assumed Physical and Operational Parameters**

Parameter	Description
Dimensions of buildings and plant	<ul style="list-style-type: none"> <li>• Main Building: 70m x 90m in plan, 20m high</li> <li>• Tanks: 70m x 50m in plan, 25m high</li> <li>• Engine and gas cleaning buildings / plant: 60m x 30m in plan, 10m high</li> </ul>
Maximum stack height:	30m. Note that stack heights have been scaled to provide suitable clearance of highest on-site structures. Stacks will need to be higher if adjacent buildings are of similar height. Stacks required are: (1) regenerative thermal oxidiser (RTO) exhaust, (2) gas engine emissions and (3) emergency gas flare.
Modelled Heat production	19,000MWh per year. Note that low-grade heat has not been modelled.
HGV movements in (imports) per week	440 trips (i.e. 440 in / 440 out), made up of 405 RCVs and 35 articulated lorries
HGV movements out (exports) per week	275 trips (i.e. 275 in / 275 out), all articulated lorries.
Specific Site Risks	Flammable gas storage (biogas) of approximately 500-1000m <sup>3</sup>

Source: Adapted from communication from Rambøll (P James), June 2008.

### 3 Description of the Site

The Pinkham Way site (see Figure 1) is located in the London Borough of Haringey. The site is approximately 6.2 hectares in size and fronts onto the A406 North Circular in Friern Barnet. Most signs of the former sewage works appear to have been removed and the site now consists of open scrub and grassland. Aerial imaging (from Google Earth) indicates flytipping on the site, with a number of burnt out cars visible. The site is known to have significant ecological value, and has been designated a borough-level Site of Nature Conservation Interest (SNCI), Grade 1.

The site is relatively square in shape (in plan), which would support a variety of waste treatment technologies and site layout configurations. Typical straight line dimensions within the site are 200-250m.

The site is located on the lower north eastern slope of Muswell Hill, and the ground rises from the north to the southwest from a flat area near the North Circular Road at around 40m AOD up to approximately 45-50m AOD.

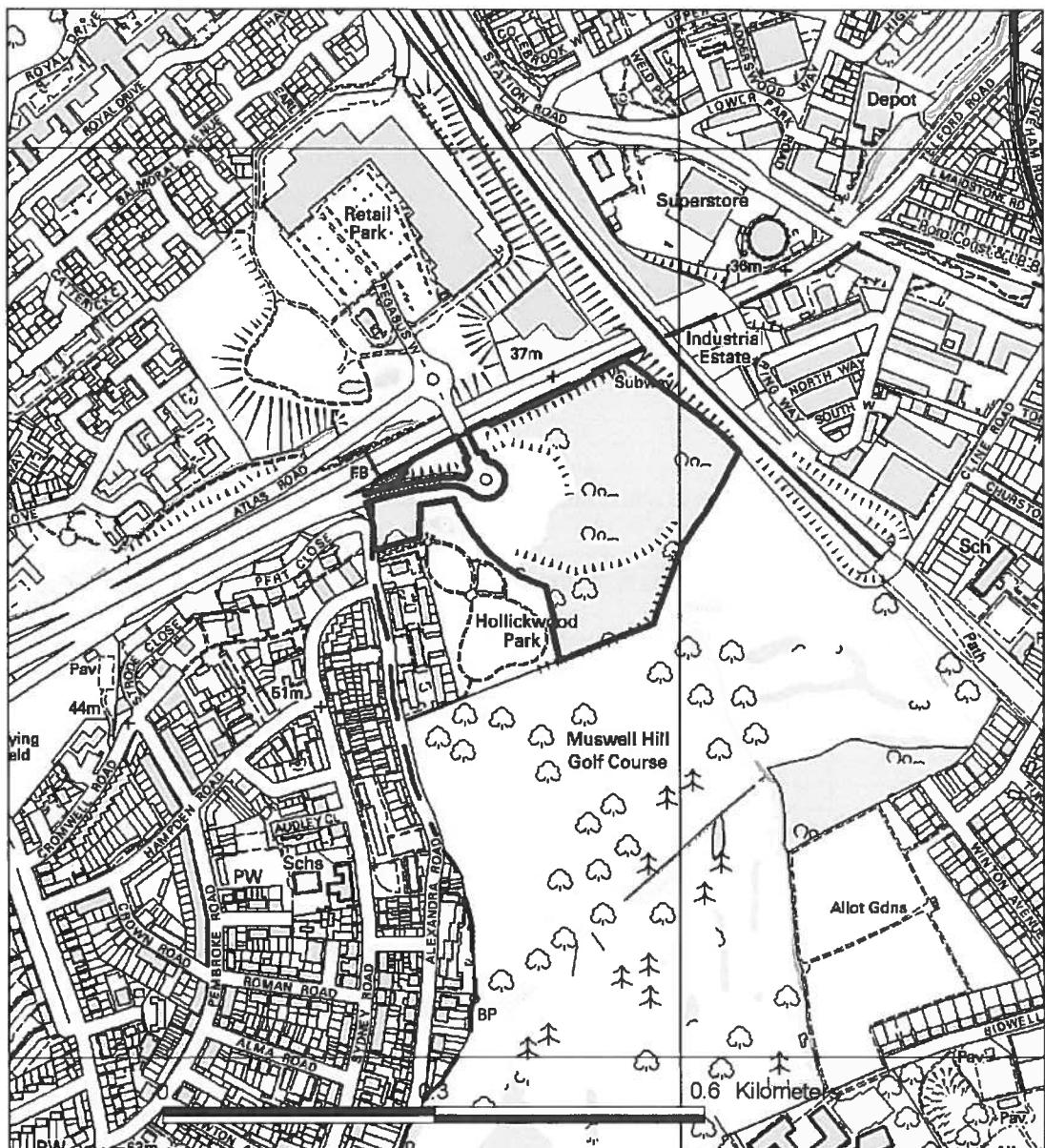


Figure 1. Pinkham Way Site Boundary (Map Supplied by NLWA)



The site has the potential for very good vehicular access. It is located directly adjacent to the North Circular Road (NCR), with an existing roundabout (Pegasus Way / Orion Road) located with the site and offering scope for access directly onto the NCR in both directions.

### **3.1 Surrounding Areas**

The southern boundary of the site fronts onto Muswell Hill Golf Course, while the western boundary fronts onto Hollickwood Park, beyond which there is a residential area (the nearest residential streets are Alexandra Road and Pert Close). The Golf Course Allotment Gardens are located further to the south, and these areas, together with the railway embankments, make a substantial contiguous area of open space and habitat.

The residential properties are generally a minimum of 100 to 150m from the western edge of the site and buffered by Hollickwood Park. The north west corner of the site, which forms a partially isolated peninsula of land, is in closer proximity to residential properties.

The four-track East Coast Main Line railway emerges from a tunnel just to the south of the site and runs in a rising embankment along the site's eastern boundary. The railway passes over the NCR, which itself is on a slight embankment above the adjacent areas of the Pinkham Way site. Across the railway and the NCR are a range of commercial developments, including the Friern Bridge Retail Park, a retail superstore and the Bounds Green Industrial Estate.

The topography of the site gives some areas the potential for views to and over the site from the south and west, although these are screened by existing tree planting in the area and along the site boundary. However, to the north and east, the site appears partially screened by the NCR and railway embankments.

### **3.2 Operational Access and Transport**

As noted above, the site is well positioned for direct access to and from the London trunk road network.

With regard to non-highway transport modes, there are no rail freight facilities in the immediate vicinity and no scope for securing a freight sidings into the site. There are no navigable waterways in the vicinity of the site. Therefore all material would be delivered and exported by road.

The site is more centrally located than the originally proposed Hendon site (being some 7km to the east), which may result in an overall reduction in forecast waste vehicle-miles for the Authority area as a whole. However, this would need to be confirmed through modelling.

The highway dependence of this site can be balanced against the wider context of the Authority having two other waste handling sites, which could enable alternative modes for longer distance journeys:

- The existing Hendon rail waster transfer station would continue to serve its existing function until it was replaced as part of the Brent Cross Cricklewood development. Any replacement would also include a rail sidings for export of waste and waste-derived materials by rail.
- The Edmonton site is located adjacent to the navigable River Lee and therefore has the capacity for water-based transport.

Each of these other sites are approximately 7-8km from the Pinkham Way site, and the position of the site on the North Circular gives it excellent potential for efficient access to these sites. Therefore, materials exported from the Pinkham Way site could realistically be delivered on a short road journey to the other two sites for onward transport by alternative modes.

### 3.2.1 Staff and Visitor Access

There are two public transport stations in the area, each of which are located approximately 1000m from the site:

- Arnos Grove Underground station, on the Piccadilly Line; and
- New Southgate main line station, with connections to Alexandra Palace and King's Cross to the south, and Hatfield to the north.

There are also bus services running along the North Circular Road (NCR) and along Bounds Green Road (to the east of the railway corridor).

It would be expected that any development proposal for the site would involve the development of a travel plan, which would encourage staff and visitors to access the site by modes other than single occupancy vehicles.

## 4 Environmental Aspects

### 4.1 Visual and Townscape

---

The sloping topography and existing tree cover in the local area serve to screen views from the more sensitive south and west of the site, such that where unscreened views exist, they will generally be over the site, rather than into it.

Any development of the site would introduce the risk of introducing a new visible feature to views across the site. This could be mitigated by making best use of the topography of the site, such that buildings could be built into the hill (which has a rise of 5-10m across the site) and thus partially "burying" up to half the typical height of the buildings.

The use of green roofs, non-rectilinear facade forms and natural building materials would all assist in reducing the visual prominence of the site. The use of landscape buffers (e.g. mounding and tree planting) would also serve to screen or blend the development into the surroundings.

The northern and eastern boundaries of the site are far less visually sensitive and are defined by the North Circular Road and a railway line and the layout of the site could reflect this by focusing the larger and taller elements of the development in this part of the site.

Overall, the size, shape and topography of the site give it a reasonable degree of flexibility to design a sensitive scheme which does not discord with the surrounding uses and views.

### 4.2 Surface Waters and Flood Risk

---

Government guidance set out in PPS25 identifies that consideration should be given to the proximity of vulnerable surface and groundwater. For Pinkham Way, Bonds Green Brook is the only water course in proximity and is located to the north of the site. It is unlikely to be affected by any development of the site, and appropriate drainage and pollution control infrastructure would be incorporated into the development.

PPS25 also identifies that all planning applications for development proposals of 1 hectare or greater in Flood Zone 1 and all proposals for new development located in Flood Zones 2 and 3 should be accompanied by a flood risk assessment. This should identify and assess the risks of all forms of flooding to and from the development and demonstrate how these flood risks will be managed, taking climate change into account. The northern section of the Pinkham Way site is identified as being located in Flood Zone Two, which has between a 1 in 100 and a 1 in 1,000 annual probability of flooding (see Figure 2).

The areas of flood risk would need to be taken into account in the design of a new facility, but given the small area which is affected by flood risk, it is likely that the design and layout can either retain the areas of flood risk for flood storage or can provide compensatory storage areas elsewhere on the site. In addition, water conservation measures can be incorporated into the scheme to reduce the rates of runoff and enhance storage capacity on site. The flood risk factor is therefore not considered an impediment to developing the site for waste purposes.

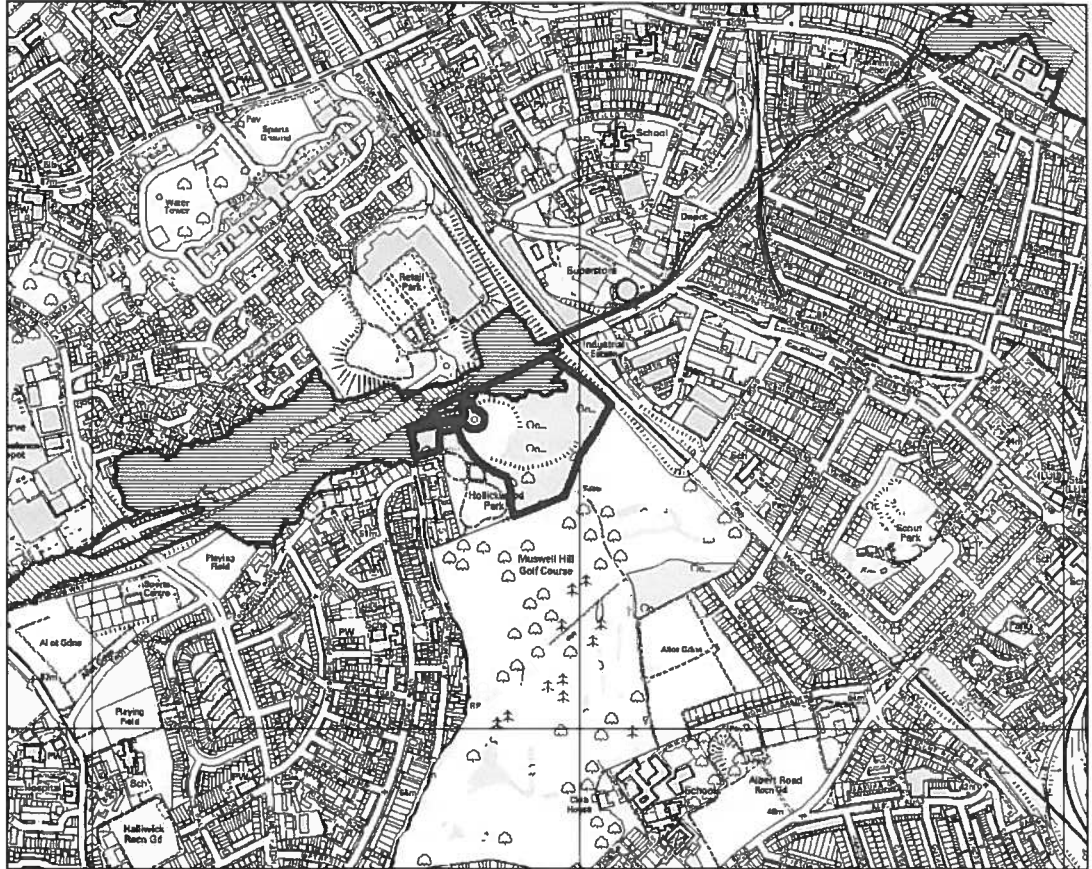


Figure 2. Pinkham Way Flood Risk (Map Supplied by NLWA)

## 5 Planning Policy

### 5.1 National Policy Context

#### 5.1.1 Planning and Climate Change – Supplement to PPS1

The supplement to PPS 1 identifies how planning, in providing for the new homes, jobs and infrastructure needed by communities, should help shape places with lower carbon emissions and more resilient to the climate change. The document requires planning to contribute towards “reducing emissions and stabilising climate change (mitigation) and takes into account the unavoidable consequences (adaptation).”

Paragraph 10 and 11 of the statement respectively outline the key principles that will be considered when deciding upon spatial strategies and in determining planning applications. The following bullet points are of relevance to this proposal;

- *“The proposed provision for new development, its spatial distribution, location and design should be planned to limit carbon dioxide emissions..*
- *New development should be planned to make good use of opportunities for decentralised and renewable or low carbon energy..*
- *New development should be planned to minimise future vulnerability in a changing climate...*
- *Mitigation and adaptation should be considered independently of each other, and new development should be planned with both in mind.”(para 10)*
- *“information sought from applicants should be proportionate to the scale of the proposed development, its likely impact on and vulnerability to climate change, and be consistent with that needed to demonstrate conformity with the development plan and this PPS..*
- *specific and standalone assessments of new development should not be required where the requisite information can be made available to the planning authority through the submitted Design and Access Statement, or forms part of any environmental impact assessment or other regulatory requirement; and..*
- *In considering planning applications before Regional Spatial Strategies (RSSs) and Development Plan Documents (DPDs) can be updated to reflect this PPS, planning authorities should have regard to this PPS as a material consideration which may supersede the policies in the development plan. Any refusal of planning permission on Grounds of prematurely because a DPD is being prepared or is under review but has not yet been adopted should be consistent with Government policy.” (para 11)*

#### 5.1.2 PPS10: Planning for Sustainable Waste Management

Government guidance states that when ‘searching’ for suitable sites for new or enhanced waste management facilities, waste planning authorities should consider a broad range of locations and look for opportunities to co-locate facilities together and with complementary activities. The guidance also notes that consideration should be given to opportunities for on-site management of waste.

It provides the criteria for consideration when ‘identifying’ waste management sites; this includes:

- *“The Physical and environmental constraints on development, including existing and proposed neighbouring land uses*
- *The cumulative effect of previous waste disposal facilities on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion or economic potential*

- *The capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, seeking when practicable and beneficial to use modes other than road transport.” (para 21)*

PPS10 establishes that the control of pollution is the responsibility of the pollution control authorities and not the local planning authority. Applicants can prepare and submit planning and pollution control applications in parallel to ensure integrated and timely decisions from each the complementary regimes.

The policy statement identifies that waste management facilities should be well-designed, so that they “*contribute positively to the character and quality of the area in which they are located.*” (p15) Whereas poor design can undermine community acceptance and should be rejected.

The Policy statement identifies that “*planning applications for sites that have not been identified, or are not located in an area identified, in a development plan document as suitable for new or enhanced waste management facilities should be considered favourably when consistent with the policies and criteria as set out in this PPS and the waste planning authority’s core strategy.*”(para.24)

The policy statement identifies that in their determination of planning applications for waste development, local authorities should have regard to the policies of PPS10 as material considerations when development plan documents are in their early stages of preparation. It also places a requirement on planning authorities to prepare local development documents that reflect their contribution to delivering the Regional Spatial Strategy (London Plan). Paragraph 5 identifies that “*Any refusal of planning permission on grounds of prematurity will not be justified unless it accords with the policy in The Planning System: General Principles.*”

### **5.1.3 Planning for Sustainable Waste Management: A Companion Guide to PPS10 (2006)**

The companion guide identifies that planning applications that “*come forward for sites that have not been identified, or are not located in an area identified, in a DPD as suitable for new or enhanced waste management facilities, may help implement the planning for waste strategy and should not be lost simply because they had not previously been identified.*”(para 8.14)

The key test is to ensure that proposals are consistent with PPS10 and the waste planning authority’s core strategy. The guidance identifies that “*where they are consistent they should be considered favourably.*” (para 8.14)

For waste disposal facilities, applications should be able to demonstrate that “*the envisaged facility will not undermine the waste planning strategy through prejudicing movement up the waste hierarchy.*”(para 8.16) The guidance notes that “*if the proposal is consistent with PPS10 and the core strategy there is no need to demonstrate ‘need’.*” (Para 8.17)

### **5.1.4 PPS9: Biodiversity and Geological Conservation**

PPS9 seeks to promote sustainable development by:

- Ensuring that biological and geological diversity are conserved and enhanced
- Conserving, enhancing and restoring England’s wildlife and geology
- Enhancing biodiversity (predominantly within green spaces)
- Ensuring that development takes account of the role and value of biodiversity.

The policy statement identifies that “*the aim of planning decisions should be to prevent harm to biodiversity and geological conservation interests. Where granting planning permission would result in significant harm to those interests, local planning authorities will need to be*

*satisfied that the development cannot reasonably be located on any alternative sites that would result in less or no harm. In the absence of any such alternatives, local planning authorities should ensure that, before planning permission is granted, adequate mitigation measures are put in place.”(para 1)*

The guidance refers to the protection of nature at all levels from local to national, although affords a high degree of protection to national and regionally important sites of nature conservation value. Para 12 seeks to protect and enhance networks of natural habitats and states that “*such networks should be protected from development and where possible strengthened by or integrated within it.*”

Para 14 of PPS 9 states that:

*“development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. When considering proposals, local planning authorities should maximise such opportunities in and around developments, using obligations where appropriate.”*

The ecological value of the site is recognised and any development proposals should take account of the need to preserve this value as far as practicable. There is a range of proven design techniques, including green roofs, permeable paving and landscape buffers which have been used successfully to integrate development and nature conservation objectives. With such measures in place it is considered that this balance could be achieved for the Pinkham Way site.

## **5.2 Regional Context: The London Plan**

The London Plan (Consolidated with Alterations Since 2004) was published in February 2008 and provides the Mayor’s policy requirements for planning for waste developments and management. This is the current iteration of the London Plan and has been produced following a series of alterations since it was published in 2004. The London Plan is the name given the London spatial strategy and replaces the strategic planning guidance for London (RPG3).

### **5.2.1 Sustainable Development**

Sustainable development underpins the London Plan and should be given a great deal of consideration from the outset. Policy 2A.1 – Sustainability Criteria- states that the borough should promote, support and encourage the development of London in ways that secure the plan’s social, environmental and economic objectives. This includes optimising the use of previously developed land and vacant or underused buildings, and ensuring that development takes account of the capacity of existing or planned infrastructure. It notes that consideration should be given to the physical constraints of development (for example flood risk), and ensure that any such impacts are acceptably mitigated.

The Pinkham Way site is a previously developed site and its location in central north London make it a suitable location for the development of waste facilities to serve the Authority’s area.

### **5.2.2 Selection of Sites for Waste Management and Disposal**

Particularly relevant to the scoping viability of potential sites is Policy 4A.23 -Criteria for the selection of sites for waste management and disposal. This requires Development Plan Documents such as the North London Waste Plan to identify sites and allocate sufficient land for waste management and disposal, employing the following criteria:

- Proximity to source of waste
- The nature of activity proposed and its scale
- The environmental impact on surrounding areas, particularly noise, emissions, odour and visual impact

- The full transport impact of all collection, transfer and disposal movements, particularly maximizing the potential use of rail and water transport
- Primarily using sites that are located on Preferred Industrial Locations or existing waste management locations

The policy identifies that “*wherever possible, opportunities should be taken to include provision for Combined Heat and Power (CHP) or Combined Cooling Heat and Power (CCHP) to accommodate various related facilities on a single site (resource recovery parks / consolidation centres).*”(p223)

Several sites included within this study are located within the Central Leaside Business Area Preferred Industrial Location (PIL). These are described in the London Plan (2008) as being Strategic Employment Locations, normally suitable for general industrial, light industrial and warehousing uses. As a result, consideration should be given to Policy 4A.27 - Broad locations suitable for recycling and waste treatment facilities. This notes that local DPDs should identify adequate provision for the scale of waste, and gives the following broad locations:

- Strategic Industrial Locations (Preferred Industrial Locations and Industrial Business Parks)
- Local Employment Areas, and
- Existing Waste Management Sites.

The Pinkham Way site is located in a designated local employment area (see below), which meets this important policy test.

### 5.2.3 The Proximity Principle

Emphasis is placed in the London Plan on proximity of sites to the source of waste, in accordance with the proximity principle. The proximity principle is one of four elements that make up the Mayor’s strategic waste management framework based on the Best Practicable Environmental Option (BPEO). The three other aspects of the framework are the waste hierarchy, regional self-sufficiency and social, environmental and economic factors.

Commentary within the Mayor’s Municipal Waste Management Strategy (2003) states that the aim of the proximity principle is to “avoid passing the environmental costs of waste management on to communities that are not responsible for its generation” and to reduce the environmental costs of transporting waste. The Strategy goes on to state “*waste management facilities should be located locally to avoid unnecessary transportation and improve local self-sufficiency for waste management, thus ensuring that local communities take responsibility for the management of the waste that they produce.*”

The central location of the Pinkham Way site makes it highly suitable as a residual waste facility location for north London in terms of the proximity principle.

## 5.3 Draft Replacement London Plan

In October 2009 the Mayor of London published for public consultation a draft replacement London Plan.

The forward timetable for the full review of the London Plan is set out below:

Item	Timescale
Draft London Plan for Public Consultation	Autumn 2009
Examination in Public	Summer 2010
Publication	Winter 2011/12



The document sets out a draft of the proposed policy guidance for the period to 2031. It has been produced to provide a clear spatial development framework that is shorter and easier to use. Policies are presented to address the strategic, planning decisions and LDF preparation requirements. This approach has been adopted to clarify the requirements of each policy.

The London Plan (2008) will remain in force until the new plan is formally published. However the emerging plan will be a material consideration that can be taken into account in determining planning applications.

The draft Plan acknowledges that 'London's waste is potentially a valuable resource that can be exploited for London's benefit, and not solely a disposal problem'. It is the Mayor's intention to address the challenges and opportunities 'in the most environmentally friendly and effective ways possible', this includes working towards zero waste to landfill by 2031 and maximising self sufficiency and promoting the proximity principle. In particular para 5.71 states: '...waste planning authorities should achieve the maximum degree of self-sufficiency possible commensurate with their obligations for managing waste, while recognising that in some instances the nearest appropriate installation might lie outside the Greater London boundary.' In this regard the Mayor will work with neighbouring regions (South East and East of England) 'to coordinate strategic waste management'. In this regard 'preference may be given to facilities outside Greater London if they are closest to the point where the waste is produced'. Further details will be set out in the new Waste Strategy.

In line with the current Plan there is recognition that London should manage as much of its waste within its boundaries as possible. Policy 5.16 – Waste Self Sufficiency sets out strategic objectives and how they will be achieved. The targets have been updated to provide details for 2020, but are generally consistent with the targets set out in the current Plan. Para 5.73 sets out the circumstances where waste is deemed to be managed in London, which include:

- Where it is used for energy recovery;
- Where it is compost or recycle sorted or bulked in a London MRF; and
- Where it is SRF (biomass fuel as defined by the current Renewable Obligation Order) produced in London.

Para 5.67 refers to a step change in municipal waste recycling performance, with 'a doubling' to 45% by 2015 and 50% by 2020. The aspiration is to secure 60% recycling by 2031. The draft Plan states these rates are consistent with recycling targets set by the Authority. It is noted that the 2015 target is also consistent with Policy 4A.21 of the current Plan.

Policy 5.17 – Waste Capacity identifies support for increasing waste processing in London and the need to identify new capacity including strategically important sites for management and treatment and locations where recycling, recovery and manufacturing activities can co-locate.

Planning applications will be assessed against a range of criteria including: locational suitability, proximity to source, nature and scale of activity, positive carbon outcome of process, environmental and transport impacts. Interestingly, proposals that include a range of complementary waste facilities on a single site, that contribute towards renewable energy (RE) generation and producing RE from organic/biomass waste will be supported. Importantly, para 5.72 notes that a flexible approach will be adopted in relation to achievement of self sufficiency, with carbon outcomes of the treatment method and transportation being the determining factor.

LDF should allocate sufficient land for waste facilities. Suitable sites will include existing waste facilities and sites in Strategic Industrial Locations – which are considered to have the

most potential for waste treatment facilities, as do other brownfield and contaminated sites. Safeguarding wharves with existing or future potential for waste management will also be supported. If waste sites are lost, then alternative provision should be made.

New borough level projections of waste arisings are being prepared and will be consulted upon in 2009 and then be incorporated into the current Plan as a minor alteration.

Para 5.81 confirms that where waste cannot be recycled or composted there is a preference for 'advanced conversion waste processing technologies' (gasification and pyrolysis). Proposals would be assessed against end to end carbon outcomes, with a positive carbon outcome required. A tool for measuring and determining minimum greenhouse gas performance is being developed with local authorities (Q. is the NLWA party to this process?). Combustion of biomass waste where heat and power are generated are expected to be acceptable technologies, but mass burn incineration of mixed waste is not.

Para 5.82 states 'developments for manufacturing related to recycled waste, deriving fuel from waste and recovering value from residual waste should be supported'.

The movement of waste by river or rail is also supported and the draft Plan identifies that priority should be given to these modes.

### **5.3.1 North London Sub-Regional Development Framework (May 2006)**

The North London SRDF provides guidance on the implementation of policies in the London Plan in order to help deliver a sustainable and prosperous future for the sub-region.

The framework notes that boroughs should, through their LDDs, identify a range of facilities sufficient to meet the sub-region's required waste processing capacity (New Waste Policy 3 in the London Plan Alterations). Moreover, it identifies that recycling and waste treatments are important growth industries and it is important to consider suitable sites and environmental separation buffers. The implications for freight will also need to be taken into account.

### **5.3.2 North London Waste Plan**

The constituent boroughs of the north London Waste Authority are in the process of developing a North London Joint Waste Development Plan Document, the North London Waste Plan (NLWP). The NLWP issues and options were published for public consultation in January 2008. The NLWP Preferred Options were published for public consultation in October 2009.

The Pinkham Way site is identified in the NLWP Preferred Options as a potential waste management site. Potential waste management sites may be considered for waste development where there are no suitable existing waste management or transfer sites that could accommodate the proposed development. It is noted that the full extent of the site is not included in the Preferred Options. The parts of the site that are not included are located around the vehicular access to the site. It is advised that representations should be submitted to the Preferred Options to ensure that the full site area is included in Schedule C, to maximise flexibility for the Authority.

The NLWP is expected to be adopted by December 2011.

## **5.4 Local Context: Haringey Core Strategy Preferred Options Consultation Document**

The Core Strategy Preferred Options Consultation Document was published in May 2009 and is the second stage of public consultation in the development of Haringey's Core Strategy, following the Issues and Options consultation which took place in early 2008. Once finalised, the Core Strategy will replace the Unitary Development Plan (UDP) as the

overarching planning guide and set out the vision and key policies for the future development of the Borough up until 2026.

The document identifies that the Borough is committed to sustainable waste management, and supports waste reduction and increased self sufficiency. It notes that “*North London is expected to deal with 1,504,000 tonnes of waste in 2010, rising to 2,342,000 tonnes in 2020*” and identifies that Haringey is “*planning for future trends in waste by safeguarding existing sites and identifying adequate facilities to deal with waste.*” (para 2.17) In a similar context, the document identifies that the North London Waste Plan Development Plan Document (DPD) is being developed to identify a sufficient number of sites to accommodate 85% of the waste produced within the seven north London Boroughs.

The document states that there are currently two waste sites in Haringey and identifies potential for a new “Green Industries Centre at Marsh Lane as part of the Tottenham Hale development.” The Council’s preferred policy approach would be “*to continue to safeguard existing sites at Tottenham and Hornsey for waste use.*”(para 2.18)

The preferred option for Strategic Policy 3- Environment- is “*to protect and enhance Haringey’s strategic and local resources for current and future generations.*” This requires *inter alia*: “*a commitment to act to minimise the use of natural resources in new development by sustainable design and management;*” and ensuring “*development is implemented along the principles of environmental protection and sustainable design to protect and enhance local resources, reducing impact in Haringey and beyond the borough boundaries.*”(p54)

Preferred Strategic Policy 7 – Design- identifies that the Council will require new development to be of high quality design. The policy notes that developments should *inter alia* be attractive, durable, and adaptable development. It will also be required to relate to the spatial and visual character of the site and the surrounding area / street scene.

The Pinkham Way Site is located at the far northern edge of the Muswell Hill Area Assembly area. The preferred option report identifies, in terms of opportunities, that there are “*No major development proposed for the area however retention of conservation areas and green spaces are important issues for the area.*”(p18)

## **5.5 Haringey Unitary Development Plan – Haringey Site Specific Proposals**

---

Haringey’s UDP was adopted in July 2006 and in July 2009 a Direction was issued by the Secretary of State confirming those policies that are saved until the adoption of the LDF DPDs. All policies that relate to the Pinkham Way site have been saved.

The Pinkham Way site is designated in adopted Haringey’s Unitary Development Plan (UDP) for a employment generating uses. The full entry for the site specific proposal is listed in Schedule 1 of the UDP, and the relevant columns are reproduced in Table 2 below. The schedule identifies all sites for specific planning issues or proposals, and includes sites where guidance to the public and/or developers is required. No such supplementary guidance is recommended for the Pinkham Way site.

### **5.5.1 Employment Land Policies**

The site is a defined employment area, within the sub-designation of “employment location”. Policy EMP3 sets out the policy for employment locations and seeks to protect such sites for employment generating uses. The Policy is more inclusive than Policy EMP2, which relates to designated Industrial Locations, but industrial uses are not explicitly precluded from Policy EMP2 employment locations.

It is recognised that modern waste facilities are being designed to meet very high standards of environmental performance and that with good design, the traditional concerns associated with waste, such as noise, odour, dust and litter can all be robustly controlled.

Consequently, the development of the site for waste facilities need not result in any greater risk of local environmental impacts than a typical non-waste industrial or light industrial process.

**Table 2. Pinkham Way Site Designations (adapted from Schedule 1 of the Haringey UDP )**

Name and Address (and Ward)	Existing Use (and Site Area)	Proposal	Policy designations [see comments below]	Progress
Former Friern Barnet Sewage Works, Pinkham Way, N10 (Alexandra Ward)	Derelict site – former sewage treatment works (6.20ha)	Employment generating uses subject to no adverse effect on the nature conservation value of the site.	<ul style="list-style-type: none"> <li>• Defined Employment Area No. 6</li> <li>• Ecologically Valuable Site No. 9</li> </ul>	[no progress recorded]

### 5.5.2 Open Space Policies

The Pinkham Way site is a designated site nature conservation interest (SNCI) of Borough Importance, Grade 1. Such sites demonstrate an intrinsic and significant nature conservation (and sometimes social) value from a borough-wide perspective. The Grade 1 designation gives it the highest status at the borough-wide level, although the level of protection would not be as high as for a site of metropolitan importance or of national/international importance (e.g., SSSIs and Ramsar sites). Policy OS6 sets the policy for ecologically valuable sites and corridors. The policy prevents development of such areas unless “there will be no adverse effect on the nature conservation value of the site, and...the importance of the development outweighs the nature conservation value of the site.”

The site is also adjacent to other designated open spaces, such as Hollickwood Park and Muswell Hill Golf Course, which together form a large contiguous area of open space and habitat. The railway line located along the eastern boundary is a designated wildlife corridor. Policy OS5 states:

*“Development close to the edge of Green Belt, Metropolitan Open Land Significant Local Open Land or any other valuable open land will only be permitted if it protects or enhances the value and visual character of the open land.”*

The adjacent and nearby areas are not designated as Green Belt, MOL or SLOL. However, the impact upon the adjacent landscape would still be a material consideration for the design of any scheme.

The dual designation of the site as an SNCI and an employment area recognises that a balance needs to be struck between these competing objectives. It is considered that with good quality design these objectives can both be met as part of a waste facility development. This is discussed previously under the commentary on PPS9.

## 5.6 Haringey UDP – Other Policies

### 5.6.1 Overarching Policies

There are a number of overarching policies relevant to the site.

Policy G1 seeks to ensure that development contributes towards the protection and enhancement of the local environment and makes efficient use of resources available.

Policy G2- Development and Urban Design- requires development to be of high quality design and contribute to the character of the local environment in order to enhance the overall quality, sustainability, attractiveness, and amenity of the built environment. It promotes high quality sustainable design in terms of form, function and impact.

Policy G4- Employment- addresses employment, identifying that development should meet the needs of business and industry, and provide employment opportunities for local residents.

### **Comment**

Proposals will be required to demonstrate their sustainable development credentials and contribute to the character of the local environment. The development of a waste facility is likely to generate employment opportunities for local residents.

### **5.6.2 Urban Design**

The urban design chapter should be read alongside SPG1a Design Guidance (2006). A brief overview of the SPG is included below. Policies include Policy UD2- Sustainable Design and Construction- is particularly relevant in terms of urban design and requires development proposals to take into account, *inter alia*:

- “pollution effects (including noise nuisance, air and light pollution);”
- “water and waste water infrastructure/drainage impact assessment;”
- “energy efficiency and renewable energy;”
- “compatibility and impact of mixed uses.” (p44)

The size of the waste facility should be considered in relation to policy UD9- Locations for Tall Buildings. This notes that applications for tall buildings will be assessed against the following criteria:

- high design quality;
- acceptable relationship to surroundings;
- appropriate site size and setting;
- wind turbulence and overshadowing;
- impact on historic environment, Green Belt and MOL;
- Environmental Policies.

The policy notes that any proposal should be designed to incorporate mitigation measures in order to reduce potential noise/ air pollution. The design should also take into consideration the ecological value of the site improving, where possible, the amenity and biodiversity of the site.

### **5.6.3 Environmental Policies**

Policy ENV1- Flood Protection- identifies that a flood risk assessment is likely to be required to form part of planning applications for development within flood risk zones and urban washlands. In terms of noise pollution, policy ENV6- Noise Pollution- notes that the Council will ensure that new noise sensitive development is located away from existing, or planned sources of noise pollution. Potentially noisy developments should only be located in areas where ambient noise levels are already high and where measures are proposed to mitigate its impact.

Policy ENV7- Air, water and light pollution- identifies that the Council will control potential pollution resulting from development in the borough by:

- a) “requiring development to locate close to facilities and public transport;”

*b) requiring developments to include measures to avoid, reduce and only then mitigate the emissions of pollutants, where appropriate;*

*c) separating potentially polluting activities from sensitive areas (green belt , MOL or ecologically valuable sites) or uses (schools, hospitals, homes); and*

*d) requiring developments that may cause pollution to locate in areas such as the defined employment areas to minimise their impact on the environment".(p61)*

The UDP notes that the Council will adopt the precautionary principle to the issue of pollution, by taking decisions on planning applications so as to avoid possible environmental damage when the scientific evidence for acting is inconclusive but the potential damage could be great.

Policy ENV13- Sustainable Waste Management- identifies that the Council will ensure that there are adequate facilities in the borough to deal with waste by:

*a) "working in partnership with the Mayor, neighbouring waste authorities and the North London Waste Authority to produce the North London Waste Development Plan Document, which will be informed by the North London Joint Waste Strategy. This Waste Development Plan Document may include additional policies to which the Council will give due consideration when taking into account any planning application for further waste facilities;*

*b) safeguarding all existing waste management sites (unless appropriate compensatory provision is made);*

*c) seeking a site for an additional Reuse and Recycling facility in the west of the borough;*

*d) approving proposals for facilities to collect, store, manage, process, or transfer waste or recyclable/compostable materials provided:*

*(i) it complies with the North London Waste Development Plan Document*

*(ii) the facility is close to the source of waste;*

*(iii) where possible there is access by rail/water to the facility*

*(iv) it is located within an appropriate area (such as industrial areas, redundant employment sites or contaminated land sites)*

*(v) it is not within a regeneration area unless the facility can be shown to compliment the aims of regeneration;*

*(vi) it does not result in a significant adverse environmental impact (for example, in terms of noise, fume or odour emissions or visual impact);*

*e) ensuring there is an adequate network of neighbourhood bring recycling centres in the borough to meet the requirements of the North London Joint Waste Strategy".(p68)*

The proposal is in accordance with the proximity principle as the facility is located close to the source of waste; however, the opportunity for sustainable transport movement is somewhat limited. Environmental assessments will be required to demonstrate that the proposal is environmentally sound.

### **Employment**

The site is identified as a Defined Employment Areas and is covered by EMP2 which states that the Council will seek to protect and enhance the Borough's Industrial Locations, for the purposes of employment uses falling within use classes B1 (b) (c), B2 and B8 or similar uses.

Proposals for uses outside the 'B' use classes mentioned above will not be permitted in the Industrial Locations unless they:

*"a) are ancillary to a primary 'B' class use;*

*b) will not compromise the employment status of a DEA; and*

*b) are a complimentary use needed for the area to function effectively for employment purposes.”(p88)*

Other relevant policies include EMP3- Defined Employment Areas – Employment Locations notes that the Council will seek to protect the Employment Locations as identified in Schedule 3 and on the Proposals Map for employment generating uses.

The site is identified as a defined employment area and the development of waste facility in this location is likely to bring a number of associated employment opportunities to local residents and the wider local economy,

#### **5.6.4 SPG 1a Design Guidance (Adopted 2006)**

The Supplementary Planning Guidance notes that land levels and other landform features need to be taken into account in the design of the development. Landscaping to a large extent can have a significant impact on the visual success or failure of a building, and its subsequent enjoyment by its occupants, owes much to the setting provided by soft and hard landscaping. The greening effect can also have a health impact in that trees absorb CO<sup>2</sup> during the day.

In terms of the architectural style, the design will need to ensure the building conforms to the distinctive character of the local area, or to the success of the building within its setting. Details may include small projections, the degree of ornamentation, brickwork, the linking of special features with those of adjoining buildings, or the continuation of brick walls and fences.

## 6 Planning Risk Assessment

This site assessment identifies Pinkham Way as suitable for development as a waste handling facility. This is consistent with the inclusion of the site as a potential waste management site in the NLWP Preferred Options. However, there are a number of issues which highlight the potential for a planning authority to refuse a planning application. For that reason the site has been considered in greater detail against the risk of refusal of planning permission and against the dismissal of an appeal. This review is divided into two sections, covering generic planning risks and those specific to the Pinkham Way site.

### 6.1 Generic Planning Risks

The following factors are considered to be key risk issues which would have a significant effect on the overall timescale for a planning decision, and on the decision itself.

- **Thermal treatment:** this might include, on a downward sliding scale of difficulty, conventional “black bag” incineration (EfW), SRF incineration or AD-derived biogas incineration. Gasification and pyrolysis processes also comprise thermal treatment, although it is recognised that the London Plan support for these “advanced thermal treatment” technologies will significantly reduce their risk relative to conventional incineration methods.

The clear emphasis in the London Plan that residual waste treatment in London should move away from EfW and towards advanced treatment technologies, coupled with the prospect of vociferous and well-organised public opposition to a new incinerator, place the risk of ultimate refusal of EfW in a quantum level above the other treatment options. Whereas other aspects of risk are focused on the impacts expressed in time delay or cost of mitigation or reworking a proposal, the fundamental policy objections to EfW may mean that such a facility will simply not be permitted.

- **Departure from, or lack of, an adopted development plan:** if the proposed waste development is on a site not allocated for waste, or if the detailed proposal is in conflict with the policy or allocation for that site, then the proposals will have an uphill struggle. However, the emerging NLWP is a material consideration that will increase in weight as it progresses through each stage of its development.
- **Lack of extensive stakeholder engagement and robust site selection processes:** if objections are not identified and addressed in the pre-application period, they will come out during the post-application period. Once in the public forum of a planning application process, the rules are less flexible and the timescales for discussion and modification of the scheme will be longer.
- **A rushed application:** applications which are not prepared with care or which are rushed to meet a fixed deadline are at a high risk of having gaps and inconsistencies identified which, even if inconsequential, will impose delays as clarifications are sought and provided.

Most mitigation measures to the above risk factors are self-evident: careful preparation, stakeholder engagement, and awaiting the adoption of the Waste DPD are essential to avoid unnecessary delays or refusal. The question of thermal treatment, as it is a fundamental technical decision on the type of treatment proposed, is not so easily mitigated. However, the key mitigation measures for a thermal treatment application would be:

- Ensure the site is allocated in the (adopted or emerging) Waste DPD for thermal treatment.
- Undertake best practice environmental baseline monitoring, especially in relation to air quality.



- Undertake an extensive public and stakeholder information campaign to ensure that objections are informed and based on an accurate understanding of the nature and risks of the proposed facility.
- Ensure the proposed development maximises the benefits of the thermal treatment, i.e. put in place a robust strategy for securing a market for both the heat and power from the facility.

Finally, decision delay could be mitigated by an aggressive planning application strategy, in which the applicant would appeal to the Secretary of State as soon as the sixteen-week time period expired. This could provide a substantial savings of time compared with a more conventional refuse-then-appeal scenario, but its success would rely all the more on a well-prepared and fully complete application being lodged, as well as the NLWA as applicant ensuring that no element of the delay to the decision could be attributed to it. However, the political implications of such an approach being undertaken by a public body should be considered carefully.

A high quality submission of a thermal treatment facility which was allocated for that purpose in the adopted development plan might well be approved within 2-3 years. The recent experience of Hampshire County Council appears to support the case that these applications need not always be subject to extensive and punitive delays.

## **6.2 Pinkham Way Planning Risk Assessment**

As noted in the preceding sections, the site is not specifically allocated for waste use in the adopted development plan, but it is within a designated employment area, which is compatible with the overall locational criteria. Furthermore, the site's nature conservation value is a significant factor which will influence the design and site capacity, as will the proximity of residential properties. Thus the overall picture for the site is of broad compatibility with the current adopted planning framework but with a range of detailed site and design issues which would be material considerations for the local planning authority or Secretary of State in making a determination of the application or appeal. These issues are considered in turn, along with a recommendation for each issue on appropriate mitigation strategies.

### **6.2.1 Compatibility with Adopted and Emerging Planning Framework**

The development of the NLWP has identified the site as a potential waste management site. Its status as a designated employment area and a designated site of nature conservation interest will remain in the UDP, so the present allocation is therefore benign but with scope to be more explicitly supportive of a waste use for the site. This leads to a number of appropriate actions:

- submit representations to Haringey and participate in the Examination in Public for the Core Strategy to seek for the waste policy elements to be strengthened and for references to be included in the Muswell Hill Area Assembly to provide for suitable waste treatment facilities.
- submit representations to the North London Waste Plan to promote the inclusion of the Pinkham Way site as a potential waste management site.
- liaise with the GLA to confirm its support for the "locational criteria approach" to selecting sites for waste development, and also to ensure the GLA highlights to the local planning authority the need to ensure a sufficient supply of sites to meet the Mayor's Waste Strategy and London Plan commitments and targets applicable to north London.

### **6.2.2 Site Capacity**

It is understood that the Pinkham Way site, is sufficient to fit the maximum requirements for the western area site in the Reference Project. However, the shape of the site and the need

to identify areas which will enable the nature conservation value to be retained or enhanced will constrain the usable land available for waste development. The design of the site and the assumptions for throughput will need to be set at a ceiling which will not create unacceptable impacts on the surrounding area and which will satisfy the relevant planning requirements for the site. This will be a key test of a planning application and will need to be addressed at an early stage to ensure the EIA is robust.

### **6.2.3 Access and Traffic**

Traffic capacity and access to Pinkham is very good, with direct access onto and off of the A406 North Circular. There is, however, no scope for other modes of transport to and from the site. This is a key weakness, but could be mitigated through two interrelated routes:

- demonstrate that the other potential sites in the area (notably the Hendon site) which do have sustainable transport mode potential are not available for development; and
- demonstrate that the Hendon rail-based WTS will provide a nearby rail-based transport option for disposal and/or distribution of the recycle and other material streams produced at Pinkham Way.

In addition, traffic issues will need to be addressed through the following key actions:

- assessing traffic impacts at key junctions in the area and where necessary identifying infrastructure improvements and active traffic management measures to increase capacity at bottlenecks and reduce the risk of clumping of HGV traffic.
- agreeing the scope of the traffic assessment with the local authority, with particular reference to the junctions and highways to be assessed and the additional developments assumed to be completed by the assessment year (i.e. the year when the waste facility would be brought into use).

### **6.2.4 Flood Risk**

The site contains a small amount of land within Flood Zone 2, which indicates that drainage and flood mitigation will be relevant (to a limited extent) to the design and determination of the application. However, the proposed use is identified in guidance (PPS25) as appropriate for such a location. Mitigation measures to be undertaken include:

- carrying out a flood risk assessment as part of the planning application preparation, which is able to demonstrate that the development of the site will not adversely affect (or will materially reduce) flood risk on other sites in the vicinity.
- provision of flood storage measures within the scheme, ideally as part of an ecologically valuable integrated site landscaping scheme.

### **6.2.5 Energy and Sustainable Design**

Given growing importance of climate change and resource reduction in the regulation of the built environment, low-carbon energy and sustainable design are becoming key drivers for the planning system. The waste facility will make a significant contribution to reduction of the carbon impact of north London's waste, compared with the current practice of low recycling rates and a significant amount of disposal by landfill.

This overall "good news" story can be enhanced in terms of the local design issues through a range of mitigation and enhancement measures for the Pinkham Way development:

- incorporation of a combined heat and power facility within the site, with the potential to export heat not required to assist the waste treatment processes. The isolated nature of the site would appear to weaken the viability of a district heating scheme, but this would need to be assessed in greater detail and it may be an important factor for securing permission.

- advanced methods and technologies for water conservation, including sustainable urban drainage systems (SUDS), rainwater harvesting and the development of green roofs.
- use of local materials and low carbon materials in the design of the facility
- incorporation of landscaping and ecologically valuable areas, particularly along the boundaries with Hollickwood Park and the golf course. The use of tree planting and permeable paving within the lesser used paved areas could also be considered (e.g. in staff and visitor car park areas and along walkways)

#### **6.2.6 Visual Impact and Design Quality**

The design of a visually pleasing development will greatly assist the case for the planning application. A high quality architectural design can engage decision-makers in a positive way and acts, for those decision-makers, as a strong indicator that care has been taken over all aspects of the development. Particular aspects which will reduce the risk of refusal are:

- a clear architectural concept which is visually pleasing and fits well with the surrounding area in terms of layout, height, massing, form, colour, texture and materials.
- sensitive treatment of boundary relationships, in particular with the park and golf course environment.
- the boundary with the North Circular creates an opportunity for a strong building line with a dramatic architectural treatment.

#### **6.2.7 Community Benefits**

New development and the investment it brings can make a positive contribution to the local community. This is more than compensating for impacts; instead, the waste development can make a contribution in several areas:

- Job creation for both construction and operation. The scheme should incorporate measures to ensure local people and firms have access to jobs and contract opportunities.
- Education and visitors centre: a new waste facility can be an important beacon of a sustainable community. The scheme should include a visitors centre accompanied by an education and outreach programme for the local community.
- Enhancement of Hollickwood Park. There may be scope to provide enhancements to Hollickwood Park as part of a package of benefits and mitigation provided with the new development.

#### **6.2.8 Mitigation of Local Impacts**

While much attention will be focused on the enhancements which the development could offer, the need for robust noise, air quality and odour control measures will be a foundational element of any scheme.

#### **6.2.9 Community and Stakeholder Engagement**

A very important feature of the new planning system is the “front loaded” nature of the process and the enhancement emphasis on meaningful pre-application engagement with key stakeholders and the community as a whole. This message has been reinforced through the Government’s current work to develop procedures for applications for Development Consent submitted to the Infrastructure Planning Commission. Although these waste developments will not be determined by the IPC, the effectiveness of consultation will still be of critical importance to supporting the case for the planning application.

**6.2.10 Conclusions**

The table below provides a summary of the risk assessment.

<b>Issue</b>	<b>Risk Level</b>	<b>Availability of successful mitigation strategies</b>
Compatibility with Adopted and Emerging Planning Framework	Medium to High	Limited. NLWA cannot control the outcome of planning policy decisions by the waste planning authority or the local planning authority.
Site Capacity	Medium	Good, as long as the proposals set an appropriate limit on the size of the facility proposed.
Access and Traffic	Medium to High	Good for highways, but no alternatives to road traffic will count against the scheme in principle.
Flood Risk	Medium	Good, subject to mitigation of any flood risk.
Energy and Sustainable Design	Medium	Limited. Success will depend on the practicability and viability of CHP / local district heating.
Visual Impact and Design Quality	Low	Good.
Community Benefits	Low	Good.
Mitigation of Local Impacts	Medium	Good, but with local residents this could be a major issue of concern.
Site Alternatives	Medium	Good, subject to a sound case in relation to Hendon.
Community and Stakeholder Engagement	Low	Good.

## 7 Conclusions

The Pinkham Way site is centrally located within north London with very good road access to, and into, the site. The site is designated employment land, and is in public ownership. Flood risk is low for most of the site area, but with a small zone along the northern edge of the site falling within Flood Zone Two. All of these factors give the site an overall good suitability for development as a residual waste treatment facility. The site size is appropriate for the amount of development required, which will give the designer room to accommodate appropriate mitigation and good quality design into the scheme.

The site is not designated for waste use in the adopted UDP, but the NLWP Preferred Options designate the site as a potential waste management site..

For the purposes of considering an application in advance of the adoption of the NLWP, the site does meet the locational criteria in the London Plan for waste facilities, both in terms of the specific site (being allocated for employment use) and in terms of the wider proximity principle. The case for allocation of the site is strengthened by the site's historic use for a related waste purpose (i.e. sewage), albeit after many years of vacancy the use of the site will need to be balanced with the objective of retaining its nature conservation value.

The lack of alternative transport modes serving the site can be balanced in the wider context of other Authority sites in North London having such alternatives, with the potential for material exported from the Pinkham Way site being transferred the short distance by road to another site, for onward transport by rail or water.

The major aspects of environmental and design concern are the designation of the site as a site of nature conservation importance (Borough Grade 1) and the relative proximity of residential and public recreational uses. These are important factors but it is anticipated that through appropriate layout and design measures an appropriate degree of mitigation or even enhancement can be achieved.

Among the specific site and design mitigation measures which might give the site a better potential for support and eventual approval by the planning authority include:

### Site Layout

- in terms of site layout, maximising the development towards the north and east of the site, with progressive reductions in mass and built area to the south and west of the site. The north west corner adjacent to the residential properties on Alexandra Road / Pert Close should in particular not be allocated for uses which might give rise to nuisance risks (such as noise, odour or fumes);
- the site layout should take account of areas of flood risk and the existing topography;
- construction of a new access off the Pegasus Way / Orion Road roundabout, to ensure all traffic arrives and departs via the North Circular.

### Architectural Treatment

- the architectural treatment for the site should be appropriate to the site and should focus on a sensitive relationship with surrounding uses rather than necessarily seeking an iconic structure. However, there is scope for the eastern and northern facades to have a more lively and dramatic architectural expression.
- so far as reasonably practicable, reducing the height and bulk of the building through excavation of the site to provide some volume below ground level, or building into the slope to conceal part of the structure.
- reducing the apparent mass of the building through architectural expression, such as organic forms and the varied use of colour and material to create articulation of the facades of large buildings.

**Conservation and Natural Resources**

- use of green/brown roof treatments which provide a high ecological value. Use of planted or landscaped treatment on vertical surfaces could also be considered;
- use of water conservation measures, such as rainwater harvesting and recycling water used in waste processing;
- use of permeable paving which allows less heavily used paved areas (such as shoulders and staff parking) to incorporate grass or other species; and
- the potential of the site to contribute to wider area development and conservation objectives should be explored. This might include the potential for energy recovery linked to a combined heat and power scheme to supply nearby properties with low carbon energy, although the practicalities for this relative isolated site will need careful consideration. Other linkages include the potential for the new development to catalyse other green industries in the area.