

Executive summary

Introduction

The London Borough of Tower Hamlets (LBTH), as unitary waste authority and waste planning authority, commissioned BPP Consulting LLP, working with Land Use Consultants and Reconsult, to assist in the preparation of the evidence base supporting the development of waste policies. These policies are to be included in the revised Local Plan for the Borough which is to cover a 15 year period. The study extends to 2036 to reflect the time period of the London Plan (2015).

Context

The need for revised policies has been driven by a number of developments as follows:

- the introduction of revised national planning policy for waste National Waste Planning Policy (NPPW);
- the adoption of Further Alterations to the London Plan which amongst other matters reduced the Borough apportionments and brought forward the dates by which landfilling of recyclable and biodegradable waste is to cease and London is to achieve net self sufficiency as a whole (London Plan policy 5.16 and 5.17); and
- the changing character of the Borough.

Policies once adopted will form part of the development plan for the Borough, against which proposals for additional waste management capacity, and proposals affecting existing waste management sites, will be considered and determined.

Scene Setting

Tower Hamlets is a London Borough with a total area of 7.63 sq mi (19.77 km²). An area of the Borough falls under the aegis of the London Legacy Development Corporation (LLDC). While LBTH remains the responsible authority when planning for provision of the management of waste arising from this area, LLDC is the plan making and determining body for waste related planning applications. The Legacy Corporation Local Plan (July 2015) sets out the Legacy Corporation's strategy for the future of its area and includes the waste related policies that commit the LLDC to cooperating with the four constituent Boroughs in matters of strategic waste management and planning.

Structure & Relationship Between Sections

The evidence base is composed of the following documents:

1. *Workstream 1/2: Capacity Gap Assessment & Assessment of Provision.*

This assesses the need for additional capacity against the goal of net self-sufficiency and general conformity with the London Plan. It identifies the notional shortfall of land to meet this, and demonstrates how a combination of land allocation i.e. existing sites and Areas of Search within Tower Hamlets identified in Workstream 3 could assure delivery of this goal alongside recognition of the current contribution LBTH makes to the London Plan strategic objectives.

2. *Workstream 3: Sites Assessment*

An assessment of land within Tower Hamlets both under sole control of LBTH and that falling under the aegis of LLDC, identifying areas of land considered suitable for allocation.

3. *Workstream 4: Duty to Cooperate & Waste Flows*

An assessment of current waste flows from Tower Hamlets, presentation of the ongoing engagement work with other Waste Planning Authorities that host receiving facilities, and an assessment and identification of alternative capacity where such facilities have been indicated as not being available, to ensure the ongoing safe and compliant management of waste arising from within the Borough. Also a presentation of evidence of ongoing engagement concerning meeting predicted shortfalls and potential collaboration.

4. *Workstream 5: Review of Options For Efficiently Managing Waste Collection In High Density Development*

A technical review of options for the onsite management of waste that might aid in reducing pressure on other land within the Borough for waste management capacity.

Conclusion & Recommendations

On the basis of the evidence and analysis presented in the above documents, it is recommended the following policy approach be adopted:

Set the Plan's objective as *'To continue to support the sustainable management of waste to meet the objectives of the London Plan, and seek to achieve net self-sufficiency in household and C&I waste management within the Borough'*, rather than delivery of the London Plan apportionment.

In order to achieve this, and provide sufficient land to accommodate the required waste management capacity:

1. Safeguard Northumberland Wharf (ID2) – a Safeguarded Wharf (for handling waste¹);
2. Safeguard Towchester Road (ID1) & the HWRC of Northumberland Wharf (ID2) to protect them from loss to non-waste uses;
3. Allocate the above safeguarded sites i.e Towchester Road (ID1) & the HWRC of Northumberland Wharf (ID2) to provide 0.66 hectares of land; Identify as Areas of Search sites ID10 and ID12, and define how applications in these Areas of Search will be considered should they come forward i.e. presumption towards favourable consideration.
4. Include a criteria-based policy for determining applications that may come forward on non-allocated sites e.g. B2/B8 class sites that may be suitable for waste uses, good transport connections etc (reflecting NPPW locational criteria) This would introduce a degree of flexibility and maximise the chances of additional facilities being developed.
5. Promote on-site management solutions that contribute towards achievement of the London Plan objectives of managing waste within London or at least bulking recyclables within London for reprocessing beyond.
6. Work with LLDC so that suitable sites and Areas of Search identified within the Tower Hamlets falling under the aegis of LLDC are allocated as per commitment in LLDC Local Plan (July 2015) and Duty to Co-operate.
7. Engage with GLA regarding the extent of general conformity with the London Plan necessary.
8. Maintain engagement with other Waste Planning Authorities regarding availability of suitable capacity, the reciprocation of arrangements where possible and the establishment of Memoranda of Understanding that codify such arrangements as necessary.

¹ See Safeguarded Wharves Review – Final Recommendation – March 2013



**London Borough of Tower Hamlets:
Waste Management Evidence Base**

Report for Workstream 1&2

**Principal Waste Stream Apportionment, Capacity Gap
& Provision Assessment.**

BPP Consulting LLP

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1 Introduction

This paper presents an assessment of Tower Hamlets' waste arisings, management capacity and movements as part of the evidence base produced to support Tower Hamlet's Local Plan. This is intended to meet the advice of the Planning Practice Guidance (PPG) on waste that advises that planned provision for waste management be based on a "robust analysis of best available data".

1.1 Data Sources

The data sources accessed for the purposes of producing this assessment are set out in Table 1 below.

Table 1: Data Sources Accessed

Data source	Keeper	Data Source	Content	Latest available year
PRIMARY SOURCES				
Waste Data Interrogator (WDI)	EA	Permitted site operators	Inputs and outputs of permitted sites by LoW code	2014
Hazardous Waste Data Interrogator (HWDI)	EA	Hazardous waste producers	Recorded transfers of waste by LoW code	2014
Wastedataflow	LBTH return to DEFRA	Waste Disposal Authorities	Quantities of waste collected by or on behalf of Local Authorities sent for onward management by type, identities of receiving facilities	2014/15
SUPPLEMENTARY SOURCES				
EA IPC database	EA	Operators of sites previously governed by Integrated Pollution control including Energy from Waste plants	Tonnes of waste received, origin and type	2014
Pollution Inventory	EA	Operators of major industrial sites inc EfW	Waste produced and fates by type	2014
Exemptions register	EA	Operators (actual and prospective) of waste management facilities that do not warrant a full permit	Location and activity type. (This can be cross referenced with the 60 exemption types to establish broad maximum quantities and waste types managed.	2015

The only source of data on waste as a whole moving through the management system is the Environment Agency Waste Data Interrogator (WDI). Since the most recent versions of the Interrogators are for 2014 this is the baseline year taken.

2 Waste Arisings & Projections

2.1 Initial Baseline Estimate

Table 2: Tonnes of waste managed attributed to Tower Hamlets - initial values (2014)

Source: Various as stated

Data source	Initial Value (tonnes)	Comment
Waste Data Interrogator (WDI)	304,348 made up of	Under -reporting - see below, but also some double counting due to movements to intermediate sites (transfer stations & recycling sites) within TH being recorded and then movements from these sites also being recorded.
Household, Industrial and Commercial	47,890	
Construction & Demolition	254,720	
Hazardous	1,738	
Hazardous Waste Data Interrogator (HWDI)	13,724	Some overlap with WDI value of 1,738 tonnes. Preference given to HWI values so hazardous element of WDI excluded.
Wastedataflow	109,249	Significant overlap with WDI values but some waste may be delivered direct to reprocessors and at least 935 tonnes to exempt sites. Destination site considered more reliable than WDI.
EA IPC database	21,104	Reference to WDF values shows that the inputs to EfW in 2014 totalled 58,649 tonnes so this is significantly under reported (as a significant amount not attributed down to Borough level).
Pollution Inventory	0	No sites within Tower Hamlets reported waste arising in 2014.
Exemptions register	-	See later for estimation method

Examination of the site specific listings within the WDI and comparisons with other datasets has revealed a number of flaws within the Environment Agency held datasets which cast doubt on exclusive reliance on the above 'headline' data. In particular:

1. Inputs to a number of sites within Tower Hamlets are not clearly attributed to any source WPA. In particular those to Hepscoth Road and Northumberland Wharf.
2. There is under-reporting of inputs to Energy from Waste plants, when compared with known amounts sent from LBTH (taken from WasteDataFlow).
3. One major site - Hepscoth Road - is actually shown as being located in LB Hackney instead of LBTH, meaning inputs and outputs of that site are not picked up in high-level headline data for Tower Hamlets.

These errors and omissions can partly be countered by reference to the WasteDataFlow data submitted by LBTH to Defra as follows:

Table 3: Amending Errors & omissions of WDI Data 2014

Limitation	Solution	Outcome
Inputs not attributed	WDF shows that 31,580 tonnes of waste was sent to the McGrath site in 2014	At least 31,580 tonnes of the total declared WDI input of the site (46,271 tonnes in 2014) attributed to LBTH
	Northumberland Wharf hosts a HWRC that receives about 3,000 tonnes per annum of LBTH waste, 60% of which goes on for recycling.	An unknown amount of the total declared WDI input of the site (107,500 tonnes in 2014) comes from LBTH. However all waste is believed to go to Belvedere EfW plant in Bexley travelling via the river Thames, meeting two key objectives of the London Plan
Under reporting of EfW inputs	WDF shows 58,649 tonnes sent to EfW.	WDF value used for 2 plants and WDI value used for Belvedere.
Incorrect allocation of Hepscott Road	Re-allocate inputs and outputs to LBTH	Additional 46,271 tonnes managed within LBTH, of which 31,580 tonnes arising within LBTH based in WDF. Additional 39,956 tonnes of outputs - at least 92% managed outside LBTH.

Forecast arisings of LACW (MSW), C&I waste and CD&E waste arisings for Tower Hamlets calculated in the preparation of the London Plan (2015) started from the following baseline estimates.

Table 4: 2012 Baseline values used to calculate waste projections for Tower Hamlets (000 tonnes)

Waste Stream	Value (tonnes)	Data source
Household	66,000	Table 3-2 London Plan Evidence Base Report GLA Model Guide and Task 4 Findings January 2014
C&I	171,000	
<i>Sub-total</i>	<i>237,000</i>	
CD&E	226,000	
Total	463,000	

- The Household Waste baseline value was derived from actual arisings reported by LBTH;
- The C&I Waste baseline value was derived by applying a compound annual growth rate of 1.20% to the Borough level results derived through the national 2009 C&I waste survey for LBTH (165,000 tpa).
- The CDE waste baseline was based on extrapolating from the London value from the 2005 DCLG survey data and apportioning by population across Boroughs.

2.2 Forecasts

Future waste arisings for Tower Hamlets were calculated in the preparation of revised apportionments included in the London Plan (2015). These figures are set out in the Table 5.

Table 5: Summary of waste projections for Tower Hamlets (000s tonnes)

Source: London Plan (2015) & Supporting Evidence Base Report (GLA 2014)

	Table 5.2 of London Plan (2015)			LP Evidence Base	Total
	Household	C&I	Sub-total	CD&E	
2016	73	169	242	248	490
2021	79	169	248	268	516
2026	83	169	252	281	533
2031	86	170	256	293	549
2036	89	172	261	303	564

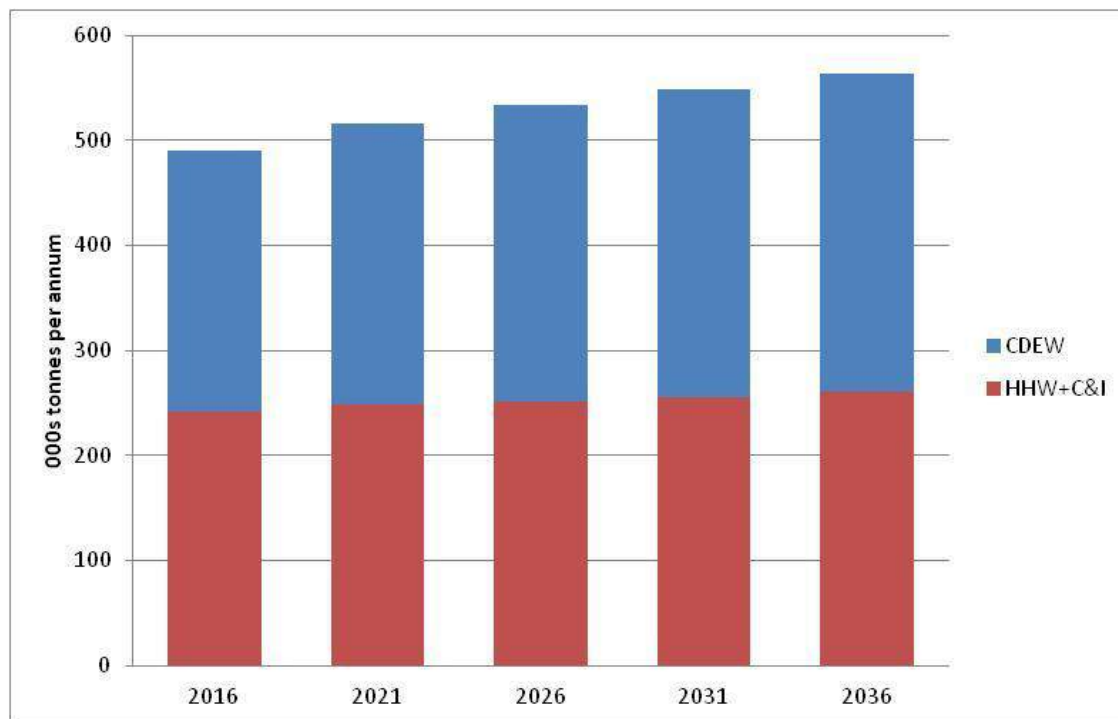


Figure 1: London Plan waste projections for Tower Hamlets (000s tonnes)

2.2.1 CDE Waste Forecasts

Borough level forecasts for CDE waste generation were produced applying the GLA demographics population forecast to the arising value generated for 2012.

Table 6 below reveals the assumed compound annual growth rates associated with the values derived in Table 5.

Table 6: Compound Annual Growth rates applied through London Plan period

	Household	C&I	CD&E
2016-21	1.59%	0%	1.56%
2021-26	0.99%	0%	0.95%
2026-31	0.71%	0.12%	0.84%
2031-36	0.69%	0.23%	0.67%
Over 20 yrs	1.00%	0.09%	1.01%

2.2.2 Hazardous waste forecasts

The report *London's Hazardous Waste A Report For The Mayor Of London* (January 2014) presents the most recent assessment of hazardous waste arising in London. In the section relating to forecasting London's hazardous waste arising it states:

"It is difficult to accurately estimate and forecast the amount of hazardous waste arising and requiring management because 1) consistent data has only been available since 2006 and 2) landfill is currently the only suitable management route for some hazardous waste types including asbestos and contaminated waste."

Review of the Agency Hazardous Waste Interrogator entries for Tower Hamlets shows that there are 10 recorded waste streams arising in quantities of greater than 100 tonnes in 2014, and these represented 95% of the total arisings, which equated to up to just over 13,000 tonnes. The streams are summarised in Table 7:

Table 7: Principal Hazardous Waste Arisings attributed to LBTH (2014)

Source: Environment Agency Hazardous Waste Interrogator

	Grand Total	% total
Contaminated building waste	8,976	69%
Asbestos contaminated materials	1,906	15%
Lead acid batteries from vehicles	899	7%
Clinical Waste	697	5%
Oils from vehicles	298	2%
Oily water from drainage systems	181	1%
CFC based equipment ie fridges	123	1%
Totals	13,080	

It is apparent from the above that the bulk of hazardous waste arising is from contaminated building materials. This conclusion is reinforced by a review of the Pollution Inventory dataset held by the Environment Agency that shows there is no major industry subject to permitting within Tower Hamlets and hence few if any significant ongoing producers of hazardous waste. Therefore, it is reasonable to assume that making provision for hazardous waste arising from Tower Hamlets need not be accorded priority within the Local Plan.

The management profile of hazardous waste arising within the Borough is displayed in Table 8 for information. Where tonnages exported amount to 500+ tonnes, approaches have been made to the WPAs hosting the receiving facility to confirm ongoing availability of capacity should it be required.

Table 8: Principal Management Routes for Hazardous Waste Arisings attributed to LBTH (2014)

Source: Environment Agency Hazardous Waste Interrogator

Receiving WPA	Facility Type	Tonnes	Waste Types
Staffordshire CC	Landfill with biological treatment	5,057	Soil & Stones
Newham LB	Hazardous Waste Transfer for recovery	2,312	Soil & Stones
Surrey CC	Landfill with biological treatment	1,779	Asbestos and soil & stones
Kent CC	Hazardous Merchant LF (asbestos only)	445	Asbestos and soil & stones
NorthamptonshireCC	Hazardous Merchant LF	586	Asbestos & dangerous substances

One should be mindful of the following when considering hazardous waste arisings:

1. The element that arises within the MSW/LACW stream is already counted within the total collected figure;
2. The element that arises within the C&I stream is already counted within the value shown, as the 2009 baseline value is a 'point of production' measure;
3. The element that arises within the CDEW stream is impossible to predict as it arises on an ad-hoc basis according to the nature and ground conditions of new development and the quantity of and contamination by hazardous materials such as asbestos within the existing building stock. Both elements can be expected to reduce over time as historically contaminated ground is remediated and hazardous material such as asbestos within the building stock is removed and replaced with non-hazardous materials.

3 Waste Apportionment

3.1 National Policy Context

The national Planning Practice Guidance (PPG) states the following about the apportionments cited in the London Plan.

Why are waste targets set out for London boroughs in the London Plan?

Apportionments of waste to London boroughs set out in the London Plan provide a benchmark for the preparation of Local Plans and a basis for Annual Monitoring Reports. Waste planning authorities should have regard to the apportionments set out in the London Plan when developing their policies. The Local Waste Plan will need to be in general conformity with the London Plan. *Revision date: 16 10 2014 Paragraph: 042 Reference ID: 28-043-20141016*

How should waste planning authorities in London identify a waste management capacity gap?

Waste planning authorities will need to plan for the delivery of sites and areas suitable for waste management to fill the gap between existing and required waste management capacity.

The need for replacement capacity should reflect that:

- apportionments provide high-level benchmarks for local planning, and are subject to annual monitoring and regular review

Revision date: 16 10 2014 Paragraph: 043 Reference ID: 28-043-20141016

Thus it is apparent that meeting the apportionments is not an absolute requirement. Rather they are "high-level benchmarks" which waste planning authorities "should have regard to" when developing policy.

3.2 The London Plan (2015) Apportionments

The current London Plan apportionment targets for Tower Hamlets are set out in Table 5.3 of Policy 5.17 of the London Plan. To illustrate the expected delivery progression they are plotted in Figure 2.

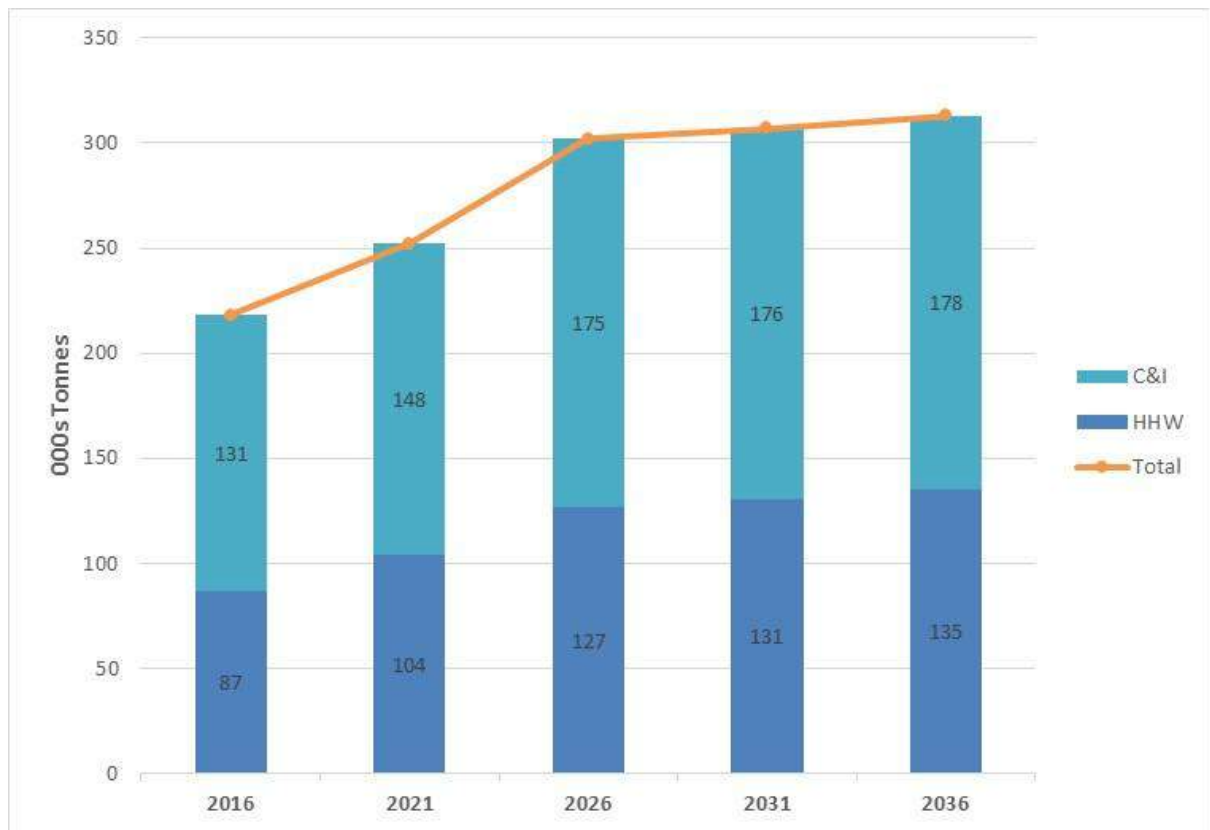


Figure 2: Waste apportioned to Tower Hamlets by the London Plan (000 tonnes)

Source: Table 5.3 of London Plan (2015)

It should be noted that the apportionment only relates to household waste and C&I waste.

Comparison of the quantity of waste Tower Hamlets is forecast to produce by the London Plan, with the tonnages apportioned to Tower Hamlets to provide to manage, reveals that the amount of waste that is earmarked for LBTH to provide for actually exceeds that which it is predicted to produce from 2021 onwards. As shown in Table 9 below. This is due to the way London-wide waste arising have been apportioned by the London Plan across the boroughs, with Tower Hamlets being required to manage more waste than it produces from 2021 onwards.

Table 9: London Plan Forecasts, Apportionments and Self-Sufficiency (000s tonnes)

	2016	2021	2026	2031	2036
HH&C&I predicted arising	242	248	252	256	261
HH&C&I predicted arising apportioned	218	252	302	307	313
Shortfall/surplus on self sufficiency	-24	+4	+50	+50	+50
% diff	-10	+1.6	+20	+20	+20

Table 9 shows that the proportion of apportioned waste to projected arisings has risen to 120% by 2026. This is illustrated in Figure 3 below:

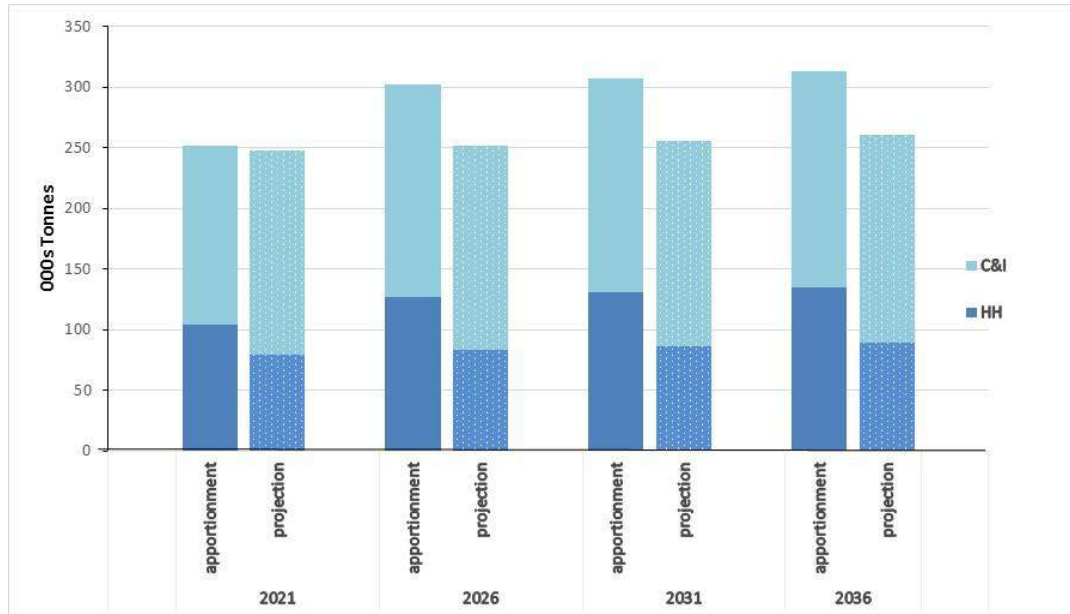


Figure 3: Waste apportioned vs. waste projections for Tower Hamlets in London Plan (000 tonnes)

The growing divergence between predicted arisings and the apportionment is graphically illustrated in Figure 4 below.

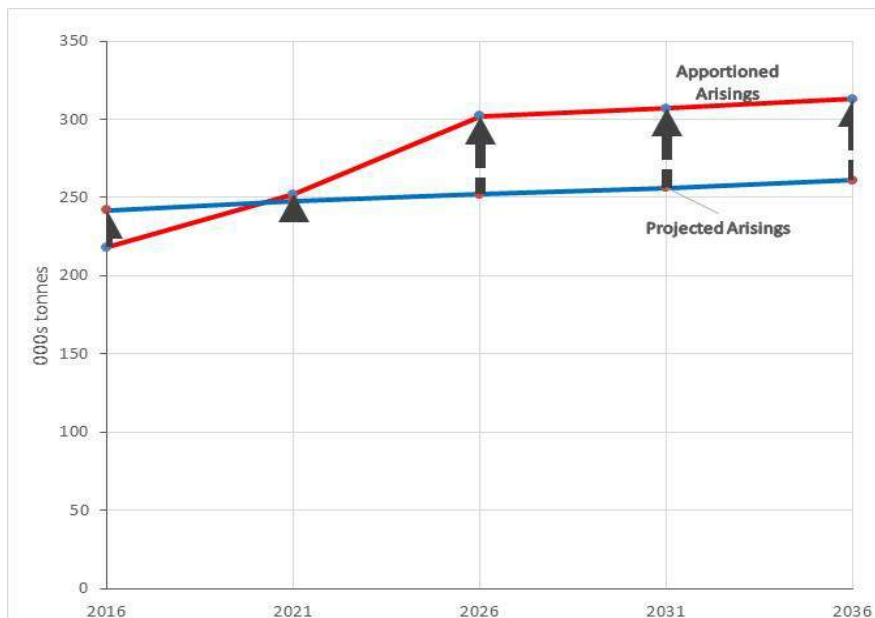


Figure 4: Difference between waste projections and apportioned for Tower Hamlets in London Plan (000 tonnes).

While the London Plan (2015) recognised that the baseline values and assumed growth rates needed to be revisited, the basis on which projected waste arisings were apportioned to individual London Boroughs was not reconsidered, as stated:

" 5.78 Waste issues were thoroughly scrutinised in the London Plan Examinations in Public in 2006, 2007 and 2010 and the Mayor sees no benefit in reopening recent debates, particularly those around the borough-level apportionment methodology."

The apportionments were calculated on the basis that London would progressively achieve net self sufficiency, with London boroughs with available suitable land expected to provide proportionally greater capacity than others. The divergence shown for Tower Hamlets is therefore surprising given the fact the Borough is located in inner London with limited land availability, as demonstrated in the accompanying land review study (workstream 3 report LUC & BPP). The actual reasoning used is not clearly stated. No evidence indicates that historically the Borough has ever achieved net self-sufficiency and there is no basis to believe that it ever could given the competing pressure for limited land within inner London. It is therefore considered that the apportionment proposed by the London Plan is in excess of that which can be realistically achieved and is therefore unreasonable.

3.2.1 Comparison with Apportionments of Other London Boroughs

Table 10 shows how the Tower Hamlets apportionment compares with other boroughs/WPAs in London based on the final apportioned amount as a percentage of forecast arisings. It is ranked 10 of 33 Boroughs in terms the final apportionment while only 16 of the 33 Boroughs are expected to exceed 100% self-sufficiency.

Table 10: Borough Level Apportionments as a % of projected arisings

Rank	Borough	2016	2021	2026	2031	2036
1	Barking & Dagenham	172%	191%	222%	219%	217%
2	Bexley	146%	166%	197%	196%	197%
3	Newham	124%	138%	161%	160%	159%
4	Greenwich	119%	135%	158%	158%	158%
5	Merton	103%	117%	138%	138%	138%
6	Hammersmith & Fulham	98%	113%	135%	136%	137%
7	Havering	105%	119%	139%	138%	137%
8	Wandsworth	92%	105%	125%	125%	126%
9	Ealing	90%	102%	121%	121%	121%
10	Tower Hamlets	90%	102%	120%	120%	120%
11	Sutton	89%	100%	118%	118%	117%
12	Hackney	84%	95%	111%	110%	110%
13	Hounslow	80%	91%	106%	106%	107%
14	Brent	80%	90%	106%	106%	106%
15	Kensington & Chelsea	74%	85%	102%	103%	104%
16	Lambeth	75%	85%	100%	100%	101%
17	Richmond upon Thames	72%	83%	98%	98%	99%
18	Enfield	74%	83%	98%	98%	98%
19	Lewisham	74%	84%	98%	97%	97%
20	Harrow	73%	83%	97%	97%	97%
21	Kingston upon Thames	72%	82%	97%	97%	97%
22	Bromley	72%	82%	96%	96%	96%
23	Haringey	71%	80%	95%	95%	95%
24	Waltham Forest	72%	81%	94%	94%	93%
25	Southwark	63%	72%	84%	84%	85%
26	Croydon	63%	72%	84%	84%	84%
27	Hillingdon	63%	71%	84%	84%	84%
28	Islington	59%	67%	80%	80%	80%
29	Redbridge	59%	66%	77%	76%	75%
30	Barnet	52%	58%	68%	68%	67%
31	Camden	40%	46%	55%	55%	55%
32	City	47%	47%	47%	47%	46%
33	Westminster	13%	15%	18%	18%	18%

Figure 5 below shows the geographical distribution of the data in Table 9 (apportionment as % of projected arisings) compared with previously developed land (pdl) declared by boroughs in 2012 in the National Landuse Database (NLUD)¹ (shown by green circles the size of which are proportionate to the hectareage). It is apparent that while LBTH is within inner London there are Boroughs in outer London with apportionments equivalent to 100% self-sufficiency or less (shown in white or grey/blue). Boroughs with large green circles on white, e.g. LB Barnet, show Boroughs assigned less than 100% of self-sufficiency/projections yet apparently have significant amounts of previously developed land (pdl) available.²

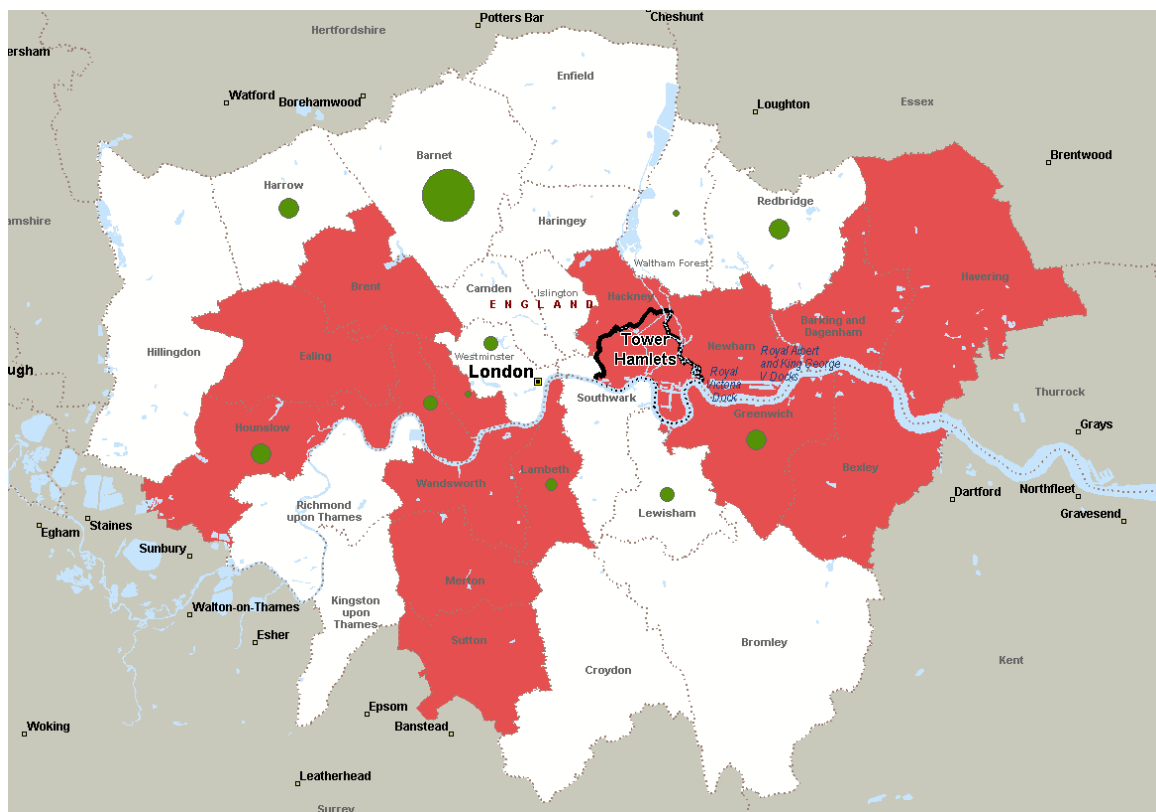


Figure 5: Difference between Borough Level Apportionments and projected arisings vs. hectares of pdl mapped by Borough

Where a Borough apportionment exceeds the predicted arisings it is shaded in red and where not it is shown white. Green circles are total area of pdl (hectares) in NLUD 2012.

¹ The National Landuse Database is intended to present a record of all previously developed land and buildings in England that may be available for development, whether vacant, derelict, or still in productive use. The NLUD for 2012 is the most recent statistical release.

<https://www.gov.uk/government/statistics/national-land-use-database-of-previously-developed-land-2012-nlud-pdl>

² It is reported that the rate of return from local authorities for 2012 was around 50%. Therefore the lack of an entry does not necessarily mean there is no pdl present, due to the possibility that a Borough did not make a return to DCLG, but the existence of an entry does confirm the presence of pdl in that Borough.

3.3 Conclusion

The above analysis indicates that the rationale or basis that may have existed when the original apportionment method was devised in 2007, based on evidence of 2005 i.e. over 10 years old, is no longer appropriate. Further still, it shows that the prescription of apportionments in excess of the projected arisings for a Borough with limited land availability such as Tower Hamlets is considered to be unjustified. It should be noted that national Planning Practice Guidance advises that the apportionments should be treated as 'high-level benchmarks' rather than absolute targets.

Since the apportionments are only a means to an end of achieving the overall goal of meeting net self sufficiency for London as a whole by 2026, this assessment proceeds on the basis of aiming to achieve net self sufficiency at Borough level for the waste the London Plan apportions i.e. HHW & C&I based on the London Plan projected arisings.

4 Tower Hamlets' Capacity Requirement

4.1 Net Self Sufficiency

Policy 5.16 of The London Plan (2015) entitled 'Waste net self-sufficiency' sets out the strategic objectives of the Plan with respect to waste management as follows:

- (a) manage as much of London's waste within London as practicable, working towards managing the equivalent of 100% of London's waste within London by 2026
- (b) create positive environmental and economic impacts from waste processing
- (c) work towards zero biodegradable or recyclable waste to landfill by 2026.

Clearly each of the above objectives are independent of the other. They are neither sequential or additive.

It is to achieve these objectives that the London Plan sets apportionments for each individual London Borough, with the expectation that the shortfall between the apportionment and the projected arisings will be exported for management outside London in the intervening years to 2026. As the preamble to Policy 5.17 Waste Capacity states *"The Mayor supports the need to increase waste processing capacity in London." and the subsequent explanatory text*". Tables 5.2 and 5.3 show a difference between waste projected to be generated within London (Table 5.2 waste arisings) and waste to be managed within London (Table 5.3). The difference between apportioned and non-apportioned waste tonnages is summarised in Table 5.4. It is expected that non-apportioned waste will be exported."

Paragraph 5.79 sets out the types of activities deemed to qualify towards meeting objective (a) above in particular as follows:

5.79 ... Waste is deemed to be managed (with)in London if:

- it is used in London for energy recovery
- it relates to materials sorted or bulked in London facilities for reuse, reprocessing or recycling
- it is materials reused, recycled or reprocessed in London
- it is a 'biomass fuel' as defined in the Renewable Obligation Order.

Table 11 below explains each activity further:

Table 11: London Plan Qualifying Activities

Qualifying activity	Activity Description
1. it is used in London for energy recovery	The waste is supplied to a facility located in London that provides energy i.e. electricity or heat
2. it relates to materials sorted or bulked in London facilities for reuse, reprocessing or recycling	The waste may be source segregated or sorted materials that are bulked up at a facility in London and sent on for reuse, recycling or reprocessing outside of London
3. it is materials reused, recycled or reprocessed in London	The waste may be source segregated materials that are reused, recycled or reprocessed within London
4. it is a 'biomass fuel' as defined in the Renewable Obligation Order.	The waste is processed into a fuel that qualifies as biomass fuel for use within or outside London

The London Plan also includes Borough level apportionments for LACW and C&I waste to contribute towards meeting objective (a) and so it is reasonable to assume that any activity that involves one or more of the qualifying activities above can be classed as contributing towards a Borough meeting its apportionment (providing it doesn't adversely affect the achievement of objective b or c of Policy 5.16).

4.2 Quantities of waste from Tower Hamlets currently managed by qualifying activities

Analysis of data for LACW for 2014 from LBTH WasteDataFlow returns shows the following:

4.2.1 Residual Waste Managed In London For Energy Recovery

At least 59,000 tonnes of LACW from LBTH was sent to Energy from Waste facilities located in London by LBTH in 2014. In particular:

- LondonWaste Edmonton (LB Enfield) (11,223tonnes direct haul)
- Veolia SelCHP (LB Lewisham) (21,120 tonnes direct haul)
- Riverside Belvedere (LB Bexley) (26,306 tonnes via Northumberland Wharf)

All of the above plants generate power and therefore the tonnage of waste sent from LBTH qualifies under activity 1 as being managed within London.

In addition, the WDI data for Northumberland Wharf indicates a total of 98,000 tonnes of waste having been sent to an 'unknown' fate in Bexley. Since the wharf is

controlled by the operator of Belvedere it is considered to be reasonable to assume that this went to Belvedere EfW. Simple arithmetic (98,000-26,306 LACW) reveals that Northumberland Wharf acted as a transfer point for a further 71,694 tonnes of residual waste from either LACW from other WDAs or C&I from LBTH or elsewhere sent for EfW within London.

So in 2014 Tower Hamlets acted as a point of supply for **131,000 tonnes of feedstock** to London's EfW capacity enabling the production of an estimated 90,000 Mega Watt Hours of electricity in the process. This should all be counted as being managed within London as well as contributing towards meeting the landfill diversion objective of the London Plan.

4.2.2 Recyclable Materials Managed in London through Source Separation

At least 12,000 tonnes of source-segregated recyclables were sent to a MRF operated by Viridor in Crayford (LB Bexley). Over 92% of inputs go on for reprocessing into products with the remainder sent either to EfW (454 tonnes) or landfill (462 tonnes). Material sent for EfW would have gone to a plant within London, while the location of the destination landfill is unknown.

The delivery of good quality material requires the commitment of resources by LBTH through the provision and servicing of facilities including bring banks, a Household Waste Recycling Sites, separation, underground facilities and separate bins.

The tonnage of sorted materials delivered to Crayford qualifies under activity 3 (Table 11) and that which subsequently leaves London for onward recycling/reprocessing qualifies under activity 2 as being managed within London.

4.2.3 Recyclable Materials Managed in London through MRFs

At least 22,000 tonnes of co-mingled recyclables were sent to a number of mixed material MRFs in London. Around 10,000 tonnes of this went on for reprocessing, with the remaining 13,000 tonnes going for recovery - which may have gone to an EfW plant in London but cannot be said so with certainty so has not been counted.

The tonnage of materials delivered to the mixed MRFs qualifies under activity 3, and that which subsequently leaves London for onward recycling/reprocessing qualifies under activity 2 as being managed within London.

It is therefore contended that the following combined tonnage of waste produced or managed through the Borough through qualifying activities may be counted as contributing towards the London Plan apportionment, (even though it eventually takes place outside LBTH), as it contributes towards the London Plan's overall objective of net self-sufficiency. This stood at circa 153,000 tonnes in 2014.

It is worth noting that only 334 tonnes (<1%) of Tower Hamlets LACW was sent directly to landfill in 2014, so LBTH is not only contributing towards the achievement of London Plan objective (a), but is also making a significant contribution to early achievement of London Plan objective (c), i.e. the cessation of landfilling by 2026.

4.3 Existing Sites

Of the six permitted operational sites within LBTH, three handle the types of waste to which the apportionment relates, that is Household Commercial & Industrial (HCI) waste. These sites are Northumberland Wharf Waste Transfer Station (Cory), Northumberland Wharf HWRC (Veolia) and Hepscott Road (McGrath). Inputs to these three sites are not attributed down to Borough level in the WDI.

4.3.1 Northumberland Wharf

The 0.88 hectare site accommodates two separate and distinct facilities - a waste transfer station (WTS) operated as a wharf by Cory Environmental and a Household Waste Recycling Centre (HWRC) operated by Veolia under contract to LBTH.

The WTS occupies the majority of the land and is one of four riparian waste transfer stations situated along the Thames through which over 85% of the waste input to the Belvedere EfW plant is supplied. Hence Northumberland Wharf plays a critical part in fulfilling the London Plan Policy 7.26 objectives in taking freight - and particularly waste movements - off the road with the consequent benefits for traffic and air quality. It does, however, receive waste by road, so the benefit of taking 98,000 tonnes off the road will be felt more by other boroughs through which waste would otherwise have travelled to Belvedere.

By maintaining a riparian waste transfer station LBTH is making a crucial contribution to the exploitation of the Energy from Waste capacity offered by the Belvedere EfW plant to London as a whole as per the objective of the London Plan. This pivotal role is recognized by the fact it currently falls under the safeguarding clause of London Plan Policy 7.26 for wharfage for waterborne freight traffic. So in reality it plays a more strategic role than a 'normal' waste management facility and accounting for its potential simply according to the site area is considered to under-estimate the significance of this role. That is to say simply converting the site area into tonnes/hectare managed does not account for its strategic role. It is therefore proposed to safeguard this area as a wharf continuing to play this critical supply role rather than as a site that might be developed further for waste management.

HWRC

The HWRC occupies just over 0.2 hectares of the site. It currently receives around 3,700 tonnes of household waste per annum, 60% of which goes for recycling. The residue is transported to Belvedere EfW via the WTS.

Since the inputs to Northumberland Wharf WTS are sent on to a EfW plant located in London, while for the HWRC it goes to the same EfW or for recycling, it would be double counting to count current throughput .

4.3.2 Hepscoth Road

Wastedataflow data indicates that the Hepscoth Road site handled around 14,000 tonnes of HCl in 2014 and a significant (but currently unknown) proportion of this waste goes for 'recovery' out of London - identified as Essex in the WDI. Since the nature of 'recovery' is not specified the tonnage managed cannot be confirmed as satisfying the qualifying criteria.

Hence in all three cases it is considered inappropriate to count the current contribution to apportionment, it being more appropriate to count each site's contribution as follows:

1. Northumberland Wharf WTS: Delivery of waste by water to London EfW.
2. Northumberland Wharf HWRC: Potential Land Area of 0.2 ha.
3. Hepscoth Road: Principally handling non-apportioned waste i.e. CDEW.

4.4 Waste handled by 'exempt' activities

An 'exempt' activity is a waste management operation that meets certain limiting criteria which means that the activity is exempt from needing an environmental permit. To qualify as exempt the operation must be registered with the Environment Agency or, in a limited number of cases, the Local Authority Environmental Health department. Each registration lasts only three years so relatively good information is available on the number of exemptions registered at any one time.

Being registered as an exempt activity does not remove the need for planning permission, and therefore it is assumed that these activities operate within planning law and have the appropriate consent where it is required.

Waste managed at exempt sites is counted as contributing towards management capacity in the new national commercial³ and industrial waste production estimation

³ New Methodology to Estimate Waste Generation by the Commercial and Industrial Sector in England DEFRA Project Report Final EV0804 August 2014

methodology (known as 'Reconcile') by extrapolating from the exemption register. However, unlike permitted facilities, there is no requirement for exempt facility operators to report actual tonnages received but there are tonnage limits specified for each exempt activity. Therefore, an estimate can be made using details of registered exemptions. For the purpose of estimating C&I waste that is handled through exempt sites, the national Reconcile method considered whether an exemption is likely to handle a significant volume of material not captured elsewhere in the facility chain, to identify the activities that could make a notable contribution to C&I waste generation estimates. From a total of 57 types of exempt activity, the national methodology selects 21 for inclusion in the estimates.

For the 21 selected exempt activities, a total annual tonnage per exemption was estimated following an assessment of the theoretical throughput based on the specified limits and a degree of expert judgment. The assumed annual throughput per type of exempt activity was then multiplied by the number of exemptions registered against each activity to generate a total tonnage managed value. This value was included in the national total.

While the national method identified 21 exempt activity types that might manage C&I waste, only 7 types were registered in Tower Hamlets at the end of 2014. Using the national estimates for tonnages managed at these exemption type, tonnages have been calculated for Tower Hamlets as set out in Table 12 below.

Table 12: Tonnage attributed to non-exclusive agricultural waste registered exempt activities within LB Tower Hamlets

Source: Applying Defra Reconcile Estimation Method 2014

Exemption Code	Brief Description	Number Registered	Tonnage assumed through each per annum	Total Tonnes Managed per annum
T2	Laundering/cleaning waste clothes/textiles for reuse	1	2,000	2,000
T6	Wood chipping or shredding	1	2,000	2,000
T9	Scrap metal processing	5	2,500	12,500
T11	Repair & refurb WEEE	1	1,000	1,000
U8	To allow waste to be used, where it is suitable for use without treatment. Specific uses include horse ménages, ornamental purposes, animal bedding.	5	250	1,250
U9	Use of waste to manufacture finished goods such as panelboard from waste woodchip	2	2,500	5,000
U11	Spreading waste on non-agric land to confer benefit	1	200	200

This gives an estimated total quantity of C&I waste being managed through exemptions within the Borough of just over **25,000 tonnes**. All the above activities would qualify under the London Plan definition as involving the management of waste within London through reuse or recycling activities. Therefore, this capacity should also be counted towards the apportionment.

Accounting for the tonnage of apportioned waste managed through methods that meet the London Plan qualifying criteria, and the capacity provided within the 16 locations where exempt activities take place involving C&I waste, **current qualifying tonnage stands at 178,000 tonnes per annum.**

4.5 Indicated Capacity Requirement

Applying the figure calculated above to the projections for apportioned waste (HHW + C&I) arisings alone (those being the only waste stream to which net self-sufficiency is being applied down to local (Borough) level through the London Plan apportionments) the following picture emerges.

Table 13: Indicative capacity shortfall against London Plan Forecasts (000s tonnes)

	2021	2026	2031	2036
London Plan Forecast	248	252	256	261
Current Provision	178	178	178	178
Shortfall	70	74	78	83

This is illustrated in Figure 6.

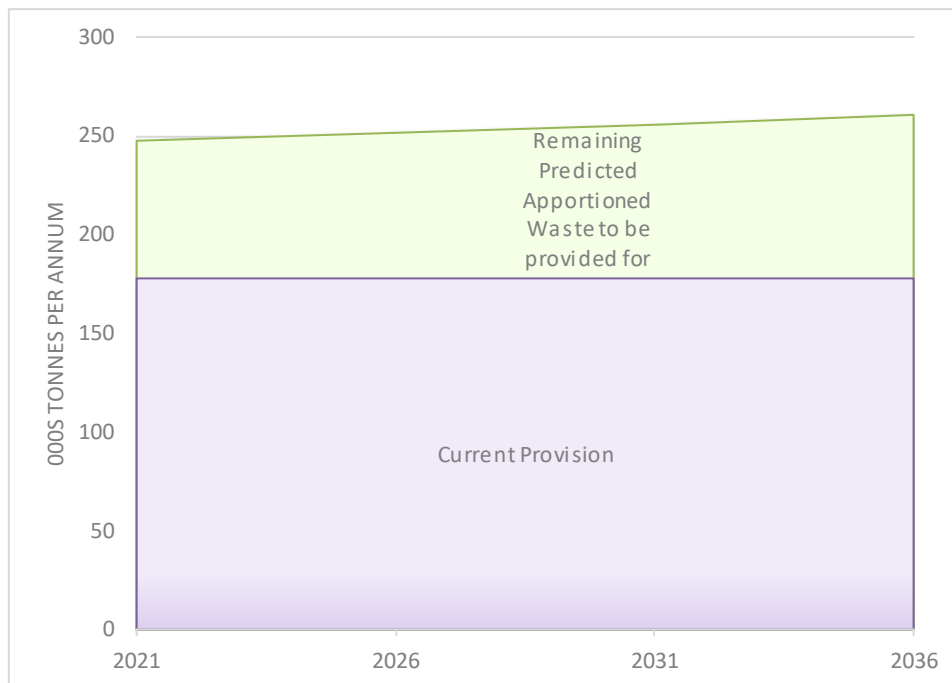


Figure 6: Current Provision & Remaining Predicted Amount for Apportioned Waste

The assessment indicates that capacity to management between 70,000 tonnes and 83,000 tonnes of waste would need to be provided for if the objective of net self sufficiency for the waste types subject to apportionment i.e. household waste and C&I at Borough level, is to be met.

5 Assessment of Potential of Sites Proposed for Allocation

5.1 Indicated Land Requirement

The London Plan requires that Boroughs allocate sufficient land to meet their apportionments. Having established that the Tower Hamlets apportionment is not considered to be reasonable, the land requirement associated with meeting the predicted capacity shortfall, if instead pursuing net self-sufficiency of apportioned waste at Borough level remains the objective, is now calculated.

Table 14 below shows the cumulative area offered for waste management development at the two sites within Tower Hamlets subject to the sole control of LBTH identified as suitable for allocation.

Table 14: Sites Proposed For Allocation

Site Id	Site Name	Area (Ha)	Cumulative (Ha)
1	Clifford House, Towcester Road,	0.46	0.46
2	<i>Northumberland Wharf HWRC, Y</i>	<i>0.2</i>	0.66

NB: Northumberland Wharf is italicised as only the portion of the site used by the HWRC would be available as the wharf is already safeguarded under London Plan policy.

In order to establish what potential capacity the sites might offer and therefore contribute towards meeting the projected shortfall of 83,000 tpa at 2036 (Table 13), a tonnes/hectare factor of 80,000 tonnes per annum/hectare has been applied. This follows the guidance in the *London Waste Apportionment Study for GLA* by Jacobs Babbie 2006⁴ - the value based on facility landtake data supplied by the GLA and internal data held by Jacobs. While this capacity factor may not be applicable to all types of facility, it could be achieved by some operations, including the bulking of recyclables for onward reprocessing and the combustion of RDF for energy production. These activities would both qualify towards meeting the apportionments under London Plan paragraph 5.79. Given the constrained nature of the borough it is considered reasonable to apply this factor as it is unlikely that large scale waste management facilities are likely to be attracted in practice due to land values. It should also be noted that there is evidence that actual developments are getting

⁴ Appendix 1 London Waste Apportionment Study 2006 for GLA by Jacobs Babbie
<http://legacy.london.gov.uk/gla/publications/planning.jsp>

more compact as land availability becomes more constrained, and facilities such as small EfW are being accommodated on sites that would previously have been considered to be unviable. An example being in Exeter where a facility designed to take only 60,000tpa was accommodated on a site of less than a hectare.

Table 15: Sites Proposed for Allocation Theoretical Contribution to Management of Apportioned Waste based on Site Area

Site Id	Site Name	Area (Ha)	Cumulative (Ha)	tpa @ 80,000/he	cumulative contribution tpa
1	Clifford House, Towcester Road,	0.46	0.46	36,800	36,800
2	Northumberland Wharf HWRC, Y	0.2	0.66	16,000	52,800

This exercise indicates that the allocation of the above identified sites would not provide sufficient land to provide for the predicted tonnage shortfall based on the outcome of the capacity assessment.

5.2 Sensitivity testing

To establish the robustness of the proposed approach a sensitivity test has been undertaken exploring the interactions of a number of different scenarios and assumptions against the outcomes of the site assessment study.

The three scenarios considered were as follows:

1. Pursuit of net self-sufficiency at LBTH level for apportioned waste
2. Adoption of the London Plan Apportionment
3. 1 or 2 plus acceptance that current activity (referred to as 'current contribution') is in general conformity with the London Plan being consistent with the overall objectives of London Plan waste policy and therefore should be credited against the capacity requirement.

This gives 4 different possible land requirement values for each of the London Plan milestone years as follows

Table 16: Land Requirement of Sensitivity Analysis Scenarios (hectares)

		2021	2026	2031	2036
Scenario	80,000				
1	Net Self Sufficiency	3.1	3.2	3.2	3.3
2	Minus Current	0.9	0.9	1.0	1.0
3	Apportionment	3.2	3.8	3.8	3.9
4	Minus Current	0.9	1.6	1.6	1.7

When the land requirements of each of the 4 Scenarios is compared with the sites actually identified through the sites assessment process falling under the sole control of LBTH (0.66 ha) the following picture emerges.

Table 17: Predicted Shortfall in Land of Sensitivity Analysis Scenarios vs. LBTH Sites Identified (hectares) (pink shading indicates a shortfall in land identified)

	2021	2026	2031	2036
<i>Land Identified</i>	0.66	0.66	0.66	0.66
Scenario 2	0.2	0.3	0.3	0.4
Scenario 4	0.3	0.9	1.0	1.0
Scenario 1	2.4	2.5	2.5	2.6
Scenario 3	2.5	3.1	3.2	3.3

This shows that, when reliant on the sites within Tower Hamlets falling under the sole control of LBTH, no Scenarios offer certainty of meeting the notional waste management capacity needs identified in the London Plan. It also shows that, to achieve general conformity with the London Plan, inclusion of the contribution of existing activity is essential in reducing the shortfall to less than a hectare.

To address this shortfall, Areas of Search⁵ have been identified within Tower Hamlets that fall under the sole control of LBTH. An assessment has been undertaken on the minimum land requirement based on a review of existing waste management unit sizes, and it is estimated that at least 0.49 hectares may be available between the two Areas of Search identified.

⁵ Areas of Search being defined as 'areas that in principle may be suitable for accommodating waste management activity but within which specific sites have not been identified'

Table 18: Areas of Search within Tower Hamlets

Site ID	Name	Site area (ha)	Possible Contribution (ha)
10	The Highway, Local Industrial Location	2.71	0.9 (3 units)
12	Empson Street, Strategic Industrial Location	10.07	0.4 (1 unit)
Site Total			0.49

Including these in the sensitivity assessment gives the following picture.

Table 19: Predicted Shortfall in Land of Sensitivity Analysis Scenarios vs. Sites Identified + LBTH Areas of Search notional contribution (hectares)

	2021	2026	2031	2036
<i>Land Identified</i>	1.15	1.15	1.15	1.15
Scenario 2	0.0	0.0	0.0	0.0
Scenario 4	0.0	0.4	0.5	0.4
Scenario 1	2.0	2.0	2.1	2.1
Scenario 3	2.0	2.6	2.7	2.8

This shows that, when reliant on the land (existing sites plus Areas of Search) within Tower Hamlets falling under the sole control of LBTH, the only Scenario for which there is the prospect of meeting the notional waste management capacity needs identified in the London Plan (shaded green), is that in which net self-sufficiency is pursued in conjunction with the contribution Tower Hamlets makes to meeting the London Plan objectives. Under all others, a shortfall of land to provide for the notional waste management capacity is indicated at some point in the plan period (as shown by the amber and pink entries).

5.3 Sites within Tower Hamlets falling under the aegis of LLDC

Three further suitable sites have been identified, two of which are currently being used for waste management purposes, located in Tower Hamlets but falling under the aegis of the LLDC. These are shown in Table 20 below:

Table 20: Suitable sites within Tower Hamlets falling under the aegis of LLDC

Site ID	Site name	Site area (ha)	Apportionment Capacity Contribution (tpa)
4	455 Wick Lane, E3 2TB	0.47	37,600
7	Iceland Metal Recycling, Iceland Wharf	0.44	35,000
16	Land at Wick Lane, Fish Island	0.69	55,000
Site Total		1.60	127,600

Table 21 below shows how inclusion of these sites would confer greater certainty /flexibility in meeting the notional need.

Table 21: Predicted Shortfall in Land of Sensitivity Analysis Scenarios vs. Sites Identified + LBTH Areas of Search notional contribution +LBTH sites in LLDC area (hectares)

	2021	2026	2031	2036
<i>Land Identified</i>	2.75	2.75	2.75	2.75
Scenario 2	0.0	0.0	0.0	0.0
Scenario 4	0.0	0.0	0.0	0.0
Scenario 1	0.4	0.4	0.5	0.5
Scenario 3	0.4	1.0	1.1	1.2

With inclusion of these sites the picture improves. The scenarios that seek to meet the London Plan apportionment still show a shortfall albeit it marginal in some cases.

Allocation of the additional land would require the LLDC to follow through on its Local Plan policy commitment to cooperating in matters of strategic waste management and planning with LBTH accounting for the waste apportionment targets when new policy is being formulated (Reproduced in Appendix 1). This would be in accordance with the Duty to Cooperate.

5.4 Areas of Search within Tower Hamlets falling under the aegis of LLDC

Two further Areas of search have been identified located in Tower Hamlets falling under the aegis of the LLDC. An assessment has been undertaken on the minimum land available, based on the review of existing unit sizes, and it is estimated that these may provide at least 0.7 hectares between them. These are shown in Table 22 below:

Table 22: Areas of Search within Tower Hamlets falling under the aegis of LLDC

Site ID	Name	Site area (ha)	Possible Contribution (ha)
17	Bow Midlands West Rail Site	3.16	0.3 (10%)
15	Fish Island, Strategic Industrial Location	9.21	0.4 (2 x unit)
Site Total			0.7

Table 23 below shows how inclusion of these Areas of Search would confer greater certainty and flexibility.

Table 23: Predicted Shortfall in Land of Sensitivity Analysis Scenarios vs. Sites Identified + LBTH Areas of Search notional contribution +LBTH sites in LLDC area + AoS in LLDC (hectares)

	2021	2026	2031	2036
<i>Land Identified</i>	3.45	3.45	3.45	3.45
Scenario 2	0.0	0.0	0.0	0.0
Scenario 4	0.0	0.0	0.0	0.0
Scenario 1	0.0	0.0	0.0	0.0
Scenario 3	0.0	0.3	0.4	0.5

With inclusion of these Areas of Search, all Scenarios present a prospect of providing sufficient land to either meet net self-sufficiency or the London Plan apportionment requirement for waste management capacity. The contribution Tower Hamlets makes to meeting the London Plan objectives (and apportionment) may be regarded as an additional bonus. While scenario 3 shows a marginal shortfall for 2026 onwards, it is notable that this shortfall is only flagged on the assumption that the Areas of Search identified yield no more than 1.19 hectares between them. Were the industrial units or areas within the Areas of Search actually used to be greater in floorspace, or additional units made available, sufficient land may become available.

Appendix 1: Extract of LLDC Local Plan 2015-2031 (adopted July 2015)

Policy IN.2: Planning for waste

In carrying out its function as a Local Planning Authority, the Legacy Corporation will cooperate with the four Boroughs in matters of strategic waste management and planning. In doing so and in making planning decisions, it will take full account of:

1. The waste apportionment targets set for each Borough within the London Plan
2. The adopted local waste plans or waste planning policy for that Borough
3. The development of new or review of existing adopted waste plans for that Borough.

Proposals that would result in the loss of an existing waste management facility would only be permitted where it can be demonstrated that:

4. An additional waste management facility has been secured, and is deliverable, which will meet the maximum waste throughput of that existing site, or
5. An existing site is capable of providing an additional capacity equivalent to that maximum waste throughput, and
6. The new site is capable of serving the same waste management needs of the original site, and
7. The new site is in the same waste authority area or waste authority group area as the original site.

Proposals for new waste management facilities will be permitted where:

8. It is located within an area designated as Strategic Industrial Land (SIL) which has been identified as a Preferred Industrial Location (PIL), or where appropriate within an Industrial Business Park (IBP) or a Locally Significant Industrial Site (LSIS)
9. The proposal does not compromise or otherwise make unviable the existing adjacent employment or transport functions
10. Its design and operation will not adversely affect the wider amenity of the proposed location

It can be demonstrated to have met the tests within Appendix B of the (draft) National Planning Policy: Planning for Sustainable Waste Uses.

Reasoned justification

- 7.7** It is acknowledged that the LLDC as a planning authority relies on waste facilities outside its area to manage waste generated within its area and the Local Plan assumes this pattern will continue. Similarly, the surrounding boroughs may rely on waste facilities in the LLDC area.
- 7.8** The Legacy Corporation is the waste planning authority for its area by virtue of its role as a planning authority. The Four Boroughs have responsibility for waste planning within the remainder of their area. Each borough has, or will have within the lifetime of this Local Plan, an adopted waste plan or waste planning policies. The adopted East London Waste Plan includes and has effect within the Newham part of the Legacy Corporation area. Tower Hamlets is its own waste authority and relevant policies within the Tower Hamlets Core Strategy (2010) will remain relevant. In each case it will be necessary for the Legacy Corporation to cooperate and work closely with each Borough where adopted plans and policy are reviewed or specific proposals that affect waste management or waste sites arise. The Boroughs of Hackney and Waltham Forest each belong to the North London Waste Planning group which is in the early stages of preparing its Waste Local Plan. The Legacy Corporation will work closely with these two Boroughs, the North London Boroughs and other key stakeholders to make sure that the North London Waste Plan continues to take account of any waste capacity, sites and related evidence within that part of the Legacy Corporation area.

- 7.9** The London Plan identifies waste apportionment targets that each Borough should meet for its area. The London Plan does not include a waste apportionment target for the Legacy Corporation area. However, the Legacy Corporation will cooperate with the four Boroughs, the GLA and TfL in seeking to meet the Borough apportionment targets and strategy for waste. When determining planning applications, these targets will remain the appropriate policy context against which to judge the acceptability of proposals that have an effect on any existing management site or operation, including proposals for new or expanded facilities.

Policy application

- 7.10** With existing waste management facilities located within the area, the policy identifies the criteria that would be necessary for proposals to meet if they would result in the loss of an existing facility, in order for them to be acceptable in terms of the effect on the waste apportionment targets set for each Borough and in order to meet the requirement of London Plan Policy 5.17 Waste Capacity.
- 7.11** For proposals on undesignated (windfall) sites, Preferred Industrial Locations are the locations within which new waste management facilities would be considered as acceptable, provided proposals meet the acceptability criteria in the policy. In the Legacy Corporation area, these are Fish Island South and Bow Goods Yard (see Policy B.1). Proposals may also be considered acceptable within Industrial Business Parks (IBP) or Locally Significant Industrial Sites (LSIS) where it is possible to demonstrate clearly that there would not be an adverse effect on the surrounding uses or area.



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London Borough of Tower Hamlets - Waste Evidence Base

Site Identification & Assessment

Final Report

Prepared by LUC in association with BBP Consulting
October 2016

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Project Code: 6736

1 Potential Sites for Waste Management

- 1.1 Government policy (NPPW¹) states that waste planning authorities in London should identify in their Local Plans "*sufficient opportunities to meet the identified needs of their area for the management of waste streams*" (paragraph 3, page 4) having regard to the apportionment set out in the London Plan². This section explains the method used for identifying and assessing the suitability of sites that may be suitable for allocation for waste management uses in the LBTH Local Plan. The method was carried out in three main stages:
- Stage 1 – Identification of the initial list of potentially suitable sites.
 - Stage 2 – Assessment of the initial list for fit with strategic policy (in the London Plan, emerging LBTH Local Plan and London Legacy Development Corporation (LLDC) Local Plan) and availability (i.e. does the site have planning permission which could limit the deliverability of a waste management use).
 - Stage 3 – Assessment of suitability of short listed sites to accommodate waste management in principle.

Stage 1 – Identification of initial list of sites

- 1.2 NPPW recommends that having considered the extent to which the capacity of existing operational facilities might satisfy any need, in searching for areas suitable for new or enhanced waste management facilities, waste planning authorities should consider opportunities for onsite management of waste where it arises, as well as a broad range of locations including industrial sites, and sites that present opportunities to co-locate new waste management facilities with existing facilities or complementary activities. Priority should also be given to previously developed land. The London Plan reflects NPPW – see Policy 5.17: Waste Capacity. Policy 5.17 also encourages the consideration of the opportunities to make use of any energy generated from the waste treatment process within combined heat and power and combined cooling heat and power schemes. Therefore, an initial list of potential sites was identified by looking at:
- **existing permitted waste management facilities** (as there could be potential for expansion or infill within existing sites, or intensification or even change of use e.g. transfer station to EfW). The grid references for these facilities were provided by the Environment Agency, and approximate site boundaries were determined through site visits by LUC and BPP in July 2016 where LBTH did not already hold the data;
 - **existing safeguarded waste management facilities** within the LBTH Managing Development Document³ (including all 6 licensed waste management facilities operating in LBTH at that time);
 - **existing policy allocations for Industrial areas/sites** within the LBTH Managing Development Document and LLDC Local Plan⁴ (more detail is provided below); and
 - **sites proposed for investigation by LLDC based on local knowledge** (the sites were identified by LLDC planning officers as potentially being suitable and available for a waste management use.)
- 1.3 The allocated industrial areas/sites were sourced from LBTH's Managing Development Document and LLDC's Local Plan. **Table 1.1** provides a summary of the policy allocations proposals used to identify the boundaries of relevant industrial areas for use in the initial list of potential sites.

¹ National Planning Policy for Waste. DCLG, 2014.

² The London Plan. Mayor of London, 2015.

³ Managing Development Document: Development Plan Document. LBTH, 2013.

⁴ Local Plan – 2015 to 2031: Publication Version. LLDC, 2014.

Table 1.1: Summary of policy allocations used to identify relevant existing industrial areas

Plan	Allocations
LBTH Managing Development Document	Strategic Industrial Location Local Industrial Location
LLDC Local Plan	Strategic Industrial Location Locally Significant Industrial Location Other Industrial Location

1.4 **Table 1.2** sets out the initial list of 17 sites identified from the data sources described above, their locations are shown in **Figure 1**. Three sites overlap with larger sites. The overlaps are between: ID 1 and ID 12; ID 4 and ID 14; and ID 16 and ID 14. It was considered that in these circumstances both the broader industrial locations and the specific sites should be assessed as the sites were identified separately (using the assessment criteria set out in Stage 1) as having potential to be suitable for waste management uses.

Table 1.2: Initial list of sites potentially suitable for waste management

Site ID	Name	Reason	Area (ha)
1	Clifford House, Towcester Road, E3 3ND	Safeguarded and existing waste site	0.46
2	Northumberland Wharf, Yabsley Street, E14 9RG	Safeguarded and existing waste site	0.88
3	McGrath House, Hepscott Road, E9 5HH	Safeguarded and existing waste site	1.47
4	455 Wick Lane, E3 2TB	Safeguarded and existing waste site	0.47
5	Unit 2 Ailsa Street, E14 0LE	Existing waste site	0.04
6	Unit 3 Ailsa Street, E14 0NE	Existing waste site	0.10
7	Iceland Wharf, Iceland Road, E3 2JP	Existing waste site in LLDC	0.44
8	40 Gillender Street, E14 6RH	Safeguarded site (former waste site)	0.53
9	Unit 6 Stour Road, E3 2NT	Safeguarded site (former waste site)	0.03
10	The Highway (Core) – Local Industrial Location	Local Industrial Location	2.71
11	Gillender Street – Local Industrial Location	Local Industrial Location	1.78
12	Empson Street – Strategic Industrial Location	Strategic Industrial Location	10.07

13	Poplar Business Park – Local Industrial Location	Local Industrial Location	1.51
14	Fish Island –and Fish Island Strategic Industrial Location B1a2 (LLDC)	Strategic Industrial Location (LBTH) & Strategic Industrial Location B1a2 (LLDC)	9.21
15	Fish Island –Fish Island Other Industrial Location B1b5 (LLDC)	Local Industrial Location (LBTH) & Other Industrial Location B1a2 (LLDC)	5.47
16	Land at Wick Lane, Fish Island	LLDC	0.69
17	Bow Midland Depot, Wick Lane, E3 2TB	Other Industrial Location in the LLDC Local Plan	3.16

- 1.5 Sites need to be of sufficient size to be capable of accommodating viable waste management facilities. From the study team’s work on waste planning matters, it has been assumed that sites significantly below 0.2ha would be unlikely to enable waste management facilities of sufficient capacity to be developed. As such, the sites listed within in **Table 1.2** were subject to a primary screening exercise and any sites a less than 0.2ha were screened out.
- 1.6 It is recognised that some small scale facilities may be achievable on sub 0.2 ha sites. However, in order to provide some certainty that the goal of net self-sufficiency might be achieved, it is considered that larger sites should be preferred as they would be more likely to be viable and hence deliverable. As a result three sites - Unit 2 Ailsa Street (ID 5), Unit 3 Ailsa Street (ID 6) and Unit 6 Stour Road (ID 9) were discounted at this stage - leaving 14 sites to go forward to the second stage screening.
- 1.7 **Table 1.3** list the sites which passed the primary screening exercise, their locations are shown on **Figure 2**.

Table 1.3: Sites that passed the primary screening exercise

Site ID	Site Name	Area (ha)
1	Clifford House , Towcester Road, E3 3ND	0.46
2	Northumberland Wharf, Yabsley Street, E14 9RG	0.88
3	McGrath House, Hepscott Road, E9 5HH	1.47
4	455 Wick Lane, E3 2TB	0.47
7	Iceland Wharf, Iceland Road, E3 2JP (LLDC)	0.44
8	40 Gillender Street, E14 6RH	0.53
10	The Highway (Core) – Local Industrial Location	2.71
11	Gillender Street – Local Industrial Location	1.78
12	Empson Street – Strategic Industrial Location	10.07

13	Poplar Business Park – Local Industrial Location	1.51
14	Fish Island –Fish Island Strategic Industrial Location B1a2 (LLDC)	9.21
15	Fish Island – Fish Island Other Industrial Location B1b5 (LLDC)	5.47
16	Land at Wick Lane, Fish Island (LLDC)	0.69
17	Bow Midland Depot, Wick Lane, E3 2TB (LLDC)	3.16

Stage 2 – Fit with strategic policy and availability

- 1.8 Each site was assessed for its fit with strategic policy. In particular, would the site’s allocation for a waste management facility conflict with existing site allocations for mixed/ residential use set out in the LLDC Local Plan and the London Plan. The availability of the site was also assessed in terms of whether it had been granted planning permission for redevelopment such as housing.
- 1.9 An area along the River Lea and in the Lower Lea Valley Opportunity Area has been designated as the Poplar Riverside Housing Zone⁵. The Housing Zone contains 10 development sites earmarked for delivering more than 6,000 homes across two delivery phases. The Housing Zone designation is not a planning designation but many of the sites within the Zone contribute to LBTH’s 15 year housing land supply. Therefore, the development of one of these sites for waste management would conflict with LBTH’s 15 year housing land supply.
- 1.10 LUC also consulted LBTH officers with regard to whether the site already has planning permission that could limit the deliverability of a waste management use onsite.
- 1.11 The policy fit and availability analysis of the 14 sites shown in **Table 1.3** above determined whether the site should be considered further for possible allocation in the Local Plan for waste use, using the following categories:
- Yes – as the site would not conflict with strategic policy, LBTH’s 15 year housing supply or has planning for an incompatible use (i.e. residential, offices, mixed use).
 - No – because the site would conflict with strategic policy, conflict with LBTH’s 15 year housing supply or has planning permission for an incompatible use.

Short list of sites for further consideration

- 1.12 **Table 1.4** sets out the results of the strategic policy fit and availability analysis of the 14 sites, with the final column stating whether the site should be considered further for allocation in the Local Plan for waste management (those in the ‘yes’ category are shown in **bold** in **Table 1.4**). Nine sites fell into the ‘yes’ category as summarised in **Table 1.5** and **Figure 3** shows the location of the nine short listed sites selected for further detailed assessment.

⁵ *Housing Zones*. GLA, 2015.

Table 1.4: Analysis of the 14 potential sites for fit with strategic policy and availability

Site ID	Name	Area (ha)	Fit with Strategic Policy	No conflict with LBTH's 15 year housing supply	Availability i.e. site has planning permission for an incompatible use	Should the site be considered further for allocation in the Local Plan ?
1	Clifford House, Towcester Road, E3 3ND	0.46	✓	✓	✓	Yes
2	Northumberland Wharf, Yabsley Street, E14 9RG	0.88	✓ - whole site is currently safeguarded as a wharf for waste transport but only part of site is used for that purpose.	✓	✓.	Yes
3	McGrath House, Hepscott Road, E9 5HH	1.47	✗ - the site is located within the Hepscott Road (SA1.3) site allocation of the LLDC Local Plan which is allocated for employment residential and creative and cultural uses.	✓	✓	No
4	455 Wick Lane, E3 2TB	0.47	✓ - the site is Safeguarded as Strategic Industrial Land (Preferred Industrial Location) within the LLDC's adopted Local Plan and has been confirmed to be potentially suitable for waste related use by LLDC.	✓	✓.	Yes
7	Iceland Wharf, Iceland Road, E3 2JP	0.44	✓ - the site is Safeguarded as 'Other Industrial Location' within the LLDC's		✓	Yes

Site ID	Name	Area (ha)	Fit with Strategic Policy	No conflict with LBTH's 15 year housing supply	Availability i.e. site has planning permission for an incompatible use	Should the site be considered further for allocation in the Local Plan ?
			adopted Local Plan and has been confirmed to be potentially suitable for waste related use by LLDC.			
8	40 Gillender Street, E14 6RH	0.53	✓	✗ – the site is located within the Ailsa Street/ Nairn Street Poplar Riverside Housing Zone and contributes to LBTH's 15 year housing land supply.	✓	No
10	The Highway (Core) – Local Industrial Location	2.71	✓ –located within the LBTH Local Industrial Location, The Highway	✓	✓	Yes
11	Gillender Street – Local Industrial Location	1.78	✓	✗ – the site is located within the LBTH Local Industrial Location, Gillender Street and the Poplar Riverside Housing Zone site. It contributes to LBTH's 15 year housing land supply.	✓	No
12	Empson Street – Strategic Industrial Location	10.07	✓ – located within LBTH's Empson Street Strategic Industrial Location.	✓	✓	Yes

Site ID	Name	Area (ha)	Fit with Strategic Policy	No conflict with LBTH's 15 year housing supply	Availability i.e. site has planning permission for an incompatible use	Should the site be considered further for allocation in the Local Plan ?
13	Poplar Business Park – Local Industrial Location	1.51	✓	✓	* – has planning permission for a mixed-use scheme – application ref: PA/11/03375 which is being implemented.	No
14	Fish Island –Fish Island Strategic Industrial Location B1a2 (LLDC)	9.21	✓ - site is allocated as the B1b5 Other Industrial Location in the LLDC Local Plan	✓	✓	Yes
15	Fish Island –Fish Island Other Industrial Location B1b5 (LLDC)	5.47	* – the site contains the 415 Wick Lane (SA1.5) site allocation of the LLDC Local Plan which is allocated for employment and residential.	✓.	✓	No
16	Land at Wick Lane, Fish Island	0.69	✓ – the site is Safeguarded as Strategic Industrial Land (Preferred Industrial Location) within the LLDC's adopted Local Plan and has been confirmed to be potentially suitable for waste related use by LLDC.	✓	✓	Yes
17	Bow Midland Depot, Wick Lane, E3 2TB	3.16	✓ – the site is allocated as the B1a2 Other Industrial	✓	✓	Yes

Site ID	Name	Area (ha)	Fit with Strategic Policy	No conflict with LBTH's 15 year housing supply	Availability i.e. site has planning permission for an incompatible use	Should the site be considered further for allocation in the Local Plan ?
			Location in the LLDC Local Plan. Safeguarded railhead and associated freight distribution use.			

Table 1.5: Short list of sites/areas for detailed assessment for allocation/identification in the Local Plan

Site Id	Site Name	Area (Ha)
Sites within LBTH under sole control of LBTH		
1	Clifford House, Towcester Road, E3 3ND	0.46
2	Northumberland Wharf, Yabsley Street, E14 9RG	0.88
Sites within LBTH under aegis of LLDC		
4	455 Wick Lane, E3 2TB	0.47
7	Iceland Wharf, Iceland Road, E3 2JP	0.44
16	Land at Wick Lane, Fish Island	0.69

- 1.13 The five short listed sites (across LBTH including LLDC) represent a total land area of 2.94ha. In addition to the five short listed sites, four areas were identified as areas of search to increase flexibility. Areas of Search are defined as 'areas that in principle may be suitable for accommodating waste management activity but within which specific sites have not been identified'.

Site Id	Area of Search Location	
Sites within LBTH under sole control of LBTH		
10	The Highway (Core) – Local Industrial Location	2.71
12	Empson Street – Strategic Industrial Location	10.07
Sites within LBTH under aegis of LLDC		
14	Fish Island –Fish Island Strategic Industrial Location B1a2	9.21
17	Bow Midland Depot, Wick Lane, E3 2TB ⁶	3.16

- 1.14 Further consideration of the relative merits and constraints of each site was needed to establish the suitability of the sites/areas identified for waste management uses in the LBTH Local Plan. It is also recognised that the allocation of land falling within the area of the borough under the aegis of LLDC would need to be subject to agreement with LLDC. However at this assessment stage this has not been taken to be a 'show stopping' factor.

⁶ While giving of the whole site over to a waste management use might be considered contrary to its safeguarding as a railhead and freight distribution, a limited area might be available particularly if there are synergies between proposed waste uses and the current construction material supply use.

Stage 3 – Assessment of suitability of short list of sites

- 1.15 Stage 3 involved visiting the nine short listed sites/areas listed above, to provide a more detailed assessment of their suitability for accommodating waste management facilities bearing in mind what might be considered to represent a 'good site'.
- 1.16 A set of site assessment criteria was developed, guided by the considerations stated in relevant national policy, in particular paragraph 4 and Annex B of the NPPW. The site assessment criteria are set out in **Table 1.6**. For each site characteristic, the assessment criteria are listed with the highest potential suitability for accommodating a waste management facility first, through to the lowest potential suitability.

Table 1.6: Site Assessment Criteria

Site Characteristic	Assessment Criteria – level of potential suitability to accommodate waste management facility ⁷	Justification for including assessment criteria
Previously developed land	High – site is previously developed. Low – Site is not previously developed (e.g. greenfield open space).	NPPW paragraph 4 gives priority to the re-use of previously developed land.
Site Configuration and Infrastructure		
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses). Moderate – No buildings on site. Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.	Operational factor.
Shape, aspect, layout	High – No major changes required to accommodate waste facility. Moderate – Minor adjustments required. Low – Development of waste facility not possible without major adjustments e.g. access realignment.	Operational factor.
Drainage	High – No drainage issues on site (using data from the Environment Agency's Risk of Flooding from Surface Water Map). Moderate – Potential drainage issues affecting part of the site (using data from the Environment Agency's Risk of Flooding from Surface Water Map). Low – Potential drainage issues affecting whole of site (using data from the Environment Agency's Risk of Flooding from Surface Water Map).	Operational factor.
Flood risk	High – Low risk of flooding (Flood Risk Zone 1 or Level 1 SFRA ⁸ showed low risk of flooding	Paragraphs 100-105 of the NPPF describe how Local

⁷ High suitability – due to low level of constraint; Moderate suitability – due to moderate level or constraint/opportunity; Low suitability – due to high level of constraint

Site Characteristic	Assessment Criteria – level of potential suitability to accommodate waste management facility ⁷	Justification for including assessment criteria
	<p>in defended scenario).</p> <p>Moderate – Moderate risk of flooding (Level 1 SFRA showed risk of flooding in defended scenario affecting part of the site).</p> <p>Low – High risk of flooding (Level 1 SFRA showed risk of flooding in defended scenario affecting whole of site).</p>	<p>Authorities should apply a sequential, risk based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk by: applying the Sequential Test; if necessary, applying the Exception Test; and using opportunities by new development to reduce the causes and impact of flooding. As stated in the National Planning Practice Guidance NPPG⁹, local authorities should take a sequential approach to developing in areas at risk of flooding, giving preference to locating development in Flood Zone 1, followed by Flood Zone 2, then Flood Zone 3. Table 2 (Flood Risk Vulnerability Classification) in the NPPG¹⁰ outlines the flood risk vulnerability classification. Sites used for waste management facilities for hazardous waste are considered to be more vulnerable, which means that they are potentially incompatible within Flood Zones 2 and 3. Other waste, water and sewage treatment works are considered less vulnerable which means they are potentially compatible with most flood zones with the exception of Flood Zone 3b, the functional floodplain.</p> <p>NPPW, Appendix B, section a. protection of water quality and resources and flood risk management, requires the consideration of the proximity to vulnerable surface and groundwater or aquifers. The suitability of locations subject to flooding, with consequent</p>

⁸ London Borough of Tower Hamlets Strategic Flood Risk Assessment, Level 1 Draft Report. Aecom, 2016.

⁹ Available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/the-aim-of-the-sequential-test/>

¹⁰ Available at: <http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-2-flood-risk-vulnerability-classification/>

Site Characteristic	Assessment Criteria – level of potential suitability to accommodate waste management facility ⁷	Justification for including assessment criteria
		issues relating to the management of potential risk posed to water quality from waste contamination will also need particular care.
Subsidence/contamination	<p>High – No issues of subsidence or contamination affecting site.</p> <p>Moderate – Potential subsidence or contamination affecting part of the site.</p> <p>Low – Subsidence or contamination affecting whole of the site.</p>	<p>NPPW, Appendix B, Section b. land instability, states that locations, and/or the environs of locations, that are liable to be affected by land instability will not normally be suitable for waste management facilities. But brownfield use promoted.</p> <p>Operational factor.</p>
Infrastructure – energy use/generation	<p>High – Site already served by/connected to the national grid.</p> <p>Low – Site not already served by existing grid connections.</p>	Operational factor.
Infrastructure – water use	<p>High – Site already served by/connected to existing water supply.</p> <p>Low – Site not already served by existing water supply.</p>	Operational factor.
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)		
Health/amenity of sensitive receptors	<p>High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m).</p> <p>Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m).</p> <p>Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring)).</p>	<p>NPPW, Appendix B, section g. air emissions, including dust, requires the consideration of the proximity of sensitive receptors and the extent to which adverse emissions can be controlled through the use of appropriate and well-maintained and managed equipment and vehicles.</p> <p>NPPW, Appendix B, section h. odours, requires the consideration of the proximity of sensitive receptors and the extent to which adverse odours can be controlled through the use of appropriate and well-maintained and managed equipment.</p> <p>NPPW, Appendix B, section j noise, light and vibration, requires the consideration of the proximity to sensitive</p>

Site Characteristic	Assessment Criteria – level of potential suitability to accommodate waste management facility ⁷	Justification for including assessment criteria
		<p>receptors. The operation of large waste management facilities in particular can produce noise affecting both the inside and outside of buildings, including noise and vibration from goods vehicle traffic and movements to and from the site. Intermittent and sustained operating noise may be a problem if not properly managed particularly if night-time working is involved. Potential light pollution aspects will also need to be considered.</p> <p>NPPW, Appendix B, section i. potential land use conflict, requires the consideration of likely proposed development in the vicinity of the proposed waste location to be taken into account when considering site suitability and envisaged waste management facility. Where potential waste sites are within proximity of planned sensitive receptors (e.g. allocated sites for housing, mixed-use developments, schools, hospitals or recreation areas), this will be taken into account.</p>
Recreation (public footpaths and rights of way)	<p>High – No public footpaths or rights of way crossing or along boundary of site.</p> <p>Moderate – Public footpaths or rights of way along boundary of site.</p> <p>Low – Public footpaths or rights of way crossing site.</p>	NPPW, Appendix B, section g., h. and j. (summarised above) also apply to transient sensitive receptors such as users of footpaths or rights of way near to a waste site.
Waste facilities (including aggregate and/or mineral sites)	<p>High – Existing facility with potential to modify/intensify operations within boundaries.</p> <p>Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which there could be a synergy (potential for co-location).</p> <p>Low – No existing facilities in vicinity.</p>	NPPW paragraph 4 requires that when identifying suitable sites for waste management, opportunities to co-locate waste management facilities together and with complementary activities should be considered.
Reprocessing/ energy production	<p>High – Metal/glass/plastic reprocessing etc. or proposed heat user on site.</p> <p>Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring</p>	NPPW paragraph 4 requires that in addition to considering opportunities for co-location of waste management facilities, where a low carbon energy

Site Characteristic	Assessment Criteria – level of potential suitability to accommodate waste management facility ⁷	Justification for including assessment criteria
	<p>site.</p> <p>Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site.</p>	<p>recovery facility is considered as an appropriate type of development, waste planning authorities should consider the suitable siting of such facilities to enable the utilisation of the heat produced as an energy source in close proximity to suitable potential heat customers.</p>
Transport		
<p>Accessibility to rail/ water transport modes</p>	<p>High – Suitable access (wharf/rail head/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use).</p> <p>Moderate – Suitable access (wharf/rail head/canal) close to site (<500m) with potential to be used.</p> <p>Low – No suitable access close to site.</p>	<p>NPPW, Appendix B, section f. traffic and access, requires consideration of the suitability of the road network and the extent to which access would require reliance on local roads, the rail network and transport links to ports.</p>
<p>Road routing</p>	<p>High – Directly onto primary road network, or short distance through compatible uses (e.g. industrial estate).</p> <p>Moderate – Short distance through B roads or incompatible uses (residential/local roads).</p> <p>Low – Long distance through incompatible uses (residential/local roads).</p>	<p>NPPW, Appendix B, section f. traffic and access, requires consideration of the suitability of the road network and the extent to which access would require reliance on local roads, the rail network and transport links to ports.</p>
<p>Route capacity at time of visit (add capacity at peak times if known)</p>	<p>High – No congestion (i.e. light or no traffic).</p> <p>Moderate – Moderately congested.</p> <p>Low – Congested.</p>	<p>NPPW, Appendix B, section f. traffic and access, requires consideration of the suitability of the road network and the extent to which access would require reliance on local roads, the rail network and transport links to ports.</p>
<p>Access onto road network</p>	<p>High – Suitable access directly on to site.</p> <p>Moderate – Unsuitable access, however, there is potential for improvements / improvements planned.</p> <p>Low – Unsuitable access on to site with little potential to create alternative / improve existing access.</p>	<p>NPPW, Appendix B, section f. traffic and access, requires consideration of the suitability of the road network and the extent to which access would require reliance on local roads, the rail network and transport links to ports.</p>
Biodiversity		
<p>Potential for</p>	<p>High – Unlikely nature conservation interest</p>	<p>NPPW, Appendix B, section d.</p>

Site Characteristic	Assessment Criteria – level of potential suitability to accommodate waste management facility ⁷	Justification for including assessment criteria
nature conservation (designated and undesignated)	<p>on site.</p> <p>Moderate – Presence of nature conservation interest on adjacent site.</p> <p>Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.).</p>	<p>nature conservation, requires consideration of adverse effects on a site of international importance for nature conservation (Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and RAMSAR Sites), a site with a nationally recognised designation (Sites of Special Scientific Interest (SSSIs), National Nature Reserves), Nature Improvement Areas and ecological networks and protected species. In LBTH, Sites of Importance for Nature Conservation (SINCs) have also been identified at the local level.</p>
Built Environment, Heritage and Landscape		
Visual intrusion – sensitivity of receptors viewing waste development	<p>High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.).</p> <p>Moderate – Semi-visible (i.e. transient from road or partially screened).</p> <p>Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.).</p>	<p>NPPW, Appendix B, section c. landscape and visual impacts, requires consideration of the potential for design-led solutions to produce acceptable development with respect to landscape character (in LBTH townscape character will be more relevant); the need to protect landscapes or designated areas of national importance (National Parks, the Broads, Areas of Outstanding Natural Beauty and Heritage Coasts – none of which occur in LBTH) and localised height restrictions. In addition, NPPW, Appendix B, section e. conserving the historic environment, requires consideration of the potential effects on the significance of heritage assets, whether designated or not, including any contribution made by their setting.</p> <p>This impact is uncertain until it is known what type of facility will be developed and the detailed design of the facility.</p> <p>Facility design and selection</p>

Site Characteristic	Assessment Criteria – level of potential suitability to accommodate waste management facility ⁷	Justification for including assessment criteria
		can mitigate impact - unlikely to be a show stopper.
Archaeology/ heritage	<p>High – No archaeological/ heritage interest on site.</p> <p>Moderate – Presence of archaeological/ heritage interest on adjacent site.</p> <p>Low – Archaeological/ heritage interest on site.</p>	NPPW, Appendix B, section e. conserving the historic environment, requires consideration of the potential effects on the significance of heritage assets, whether designated or not, including any contribution made by their setting.

Use of site assessment criteria and site visit method

- 1.17 Site visits took place on 15th July 2016 and were conducted by a qualified planner (Jonny Hill) accompanied by a qualified waste manager (Shane Tasker). Site proformas and detailed OS maps were used to assess each site against the different criteria and for making more detailed notes. Photographs were also taken from site boundaries where possible. Aerial photos from Google and Bing images were used. Direct access to the sites was not obtained.
- 1.18 During the site visits, each of the sites was assessed using the assessment criteria and a 'level of potential suitability' to accommodate a waste management facility was assigned to each site characteristic (as shown in **Table 1.6**). Findings from the site visit were entered into a proforma for each site. These can be found in **Appendix WS3**.
- 1.19 The objective of the site assessments was to establish each sites' suitability to accommodate a waste management use, not their detailed deliverability or viability. This assessment will be undertaken by LBTH.

Findings – Suitability of short list of sites

- 1.20 **Table 1.7** provides a visual summary of the level of potential suitability for each site against each of the criteria considered in the detailed site assessments in **Appendix WS3**. Table 1.7 illustrates that on the whole the sites are considered to be highly suitable to accommodate waste management uses with only a few moderate or low scores recorded per site for some of the assessment criteria. Drawing from the detailed site assessments, **Table 1.8** summarises the key benefits and constraints of each of the nine shortlisted sites/areas, including key findings from the onsite assessments, as well as relevant information regarding current and potential future use of the sites. A conclusion is then drawn for each site/area regarding overall suitability, taking all of the site assessment findings into account. Detailed boundary maps also showing potential constraints for each site/area are provided in **Appendix WS3**.

Table 1.7: Summary Matrix of the Detailed Site Assessments

Site	Assessment Criteria																		
	Previously developed land	Buildings on site	Shape, aspect and layout	Drainage	Flood risk	Subsidence/contamination	Infrastructure – energy use/generation	Infrastructure – water use	Health/amenity of sensitive receptors	Recreation	Waste facilities	Processing/energy production	Access to rail/water transport modes	Road routing	Route capacity	Access on to road network	Potential for nature conservation	Visual intrusion	Archaeology/heritage
1 Clifford House	High	High	High	High	High	High	High	High	High	High	High	Low	Low	Moderate	High	High	High	High	High
2 Northumberland Wharf	High	High	High	Moderate	High	High	High	High	High	High	High	Low	High	Moderate	High	High	High	Low	Low
4 455 Wick Lane	High	High	High	Moderate	High	High	High	High	High	High	High	Low	High	High	High	High	High	High	High
7 Iceland Wharf	High	High	High	Moderate	High	High	High	High	High	High	High	Low	High	Moderate	High	High	High	High	High
10 The Highway (Core) LIL	High	High	High	Moderate	High	High	High	High	Low	Moderate	Moderate	Low	Low	High	Moderate	High	High	High	High
12 Empson Street SIL	High	High	High	Moderate	High	High	High	High	Low	Low	Moderate	Low	High	Moderate	High	High	High	High	High
14 Fish Island SIL B1a2	High	High	High	Moderate	High	High	High	High	Low	Moderate	Moderate	Low	High	High	High	High	High	High	High
16 Land at Wick Lane	High	Moderate	High	Moderate	High	High	High	High	Low	Moderate	Moderate	Low	Moderate	Moderate	High	High	High	High	High
17 Bow Midlands Depot	High	Low	High	Moderate	High	High	High	High	Moderate	High	Moderate	Low	High	High	Moderate	High	High	High	High

Note: every site performed poorly on at least one criterion. Identifying sites in proximity to existing uses that might provide the opportunity for synergies with materials supply and possible energy¹¹ were particularly problematic and common to all. Such opportunities may be limited to the precise type of facility selected for development and is generally considered to be a 'nice' to have rather than critical to determining delivery.

Suitability	Colour
High	Light Green
Moderate	Yellow
Low	Red

¹¹ Criterion – Processing/ energy production

Table 1.8: Stage 3 - Suitability of short list of sites

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
1	Clifford House, Towcester Road. E3 3ND	Demolition Contractor Depot	0.46	<p>Key benefits: The site is used as a yard for the operator’s demolition business with the permitted waste management use being ancillary but active. Although the buildings on site are not all currently used for waste management purposes it is considered that they could be fit for waste management purposes.</p> <p>The impact of the existing waste management use as part of the operator’s demolition business on the amenity of the residential receptors approximately 50m to the north is considered to be currently acceptable and could be expected to remain so. The site is screened from the residential receptors by the existing industrial estate, as such, no visual intrusion is experienced.</p> <p>As the waste management use is currently ancillary to the principal depot use there is potential for waste related operations to be expanded/intensified.</p> <p>The site is not at risk from flooding, including surface water flooding and is not located within a nature conservation designation nor does it appear to contain undesignated nature conservation interests.</p> <p>Key constraints: The site is not within close proximity of wharf, railhead or canal and vehicles have to travel a short distance along the B140 before joining the A12.</p> <p>The site does not appear to contain a proposed heat user nor is it located near to one.</p> <p>The site is also adjacent to the Limehouse Cut Conservation Area.</p> <p>The site is considered to be suitable for a waste management facility if the whole site were to be utilised. As the waste management use is currently ancillary to the principal depot use there is potential for waste related operations to be expanded/</p>

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>intensified.</p> <p>The impact of the current operation including the waste management use on the surrounding residential properties is considered acceptable as it is currently in operation.</p> <p>Any future planning applications for the intensification of the current waste use on the site will need to be accompanied by a Transport Assessment and assess the potential impacts on the Limehouse Cut Conservation Area.</p>
2	Northumberland Wharf, Yabsley Street, E14 9RG	Waste Transfer Station and Household Waste Recycling Centre	0.2 of 0.88	<p>Key benefits: The site is a dedicated waste site currently subdivided between two distinct operations. Being a dedicated waste site the buildings onsite and the site itself are considered to be fit for waste management purposes and would be suitable for retention unless the whole site were to be redeveloped for a processing facility.</p> <p>The impact of the use on the amenity (including visual intrusion) of the residential receptors to the north is currently acceptable and could be expected to remain so given expansion of operations with retention of the existing buildings.</p> <p>The site is located within Flood Risk Zones 2 and 3. However, the Thames Tidal Defence system, including the Thames Barrier and Thames River Walls provide the site with a significant standard of protection against tidal flooding, up to the 1 in 1000 year event. This is reflected in the defended scenario set out in the SFRA¹² which shows the site is not considered to be at risk from flooding.</p> <p>As the site is a dedicated waste site currently subdivided between two distinct operations it is considered that there is potential for the operations to be intensified.</p> <p>Furthermore, the site has direct access to an operational wharf which is currently used for waste transfer to utilise the river to transport waste. This is considered to be an important feature.</p>

¹² London Borough of Tower Hamlets Strategic Flood Risk Assessment, Level 1 Draft Report. Aecom, 2016.

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>Key constraints: The site is safeguarded as a wharf a use for which a substantial portion is used (0.68ha located comprising the southern portion of the site). Only the non-wharf use is considered to be available for intensification (0.2ha within the northern portion of the site).</p> <p>Part of the site is located within the River Thames and Tidal Tributaries Site of Importance for Nature Conservation (SINC). The site is also located within an Archaeological Priority Area and is adjacent to the Coldharbour Conservation Area.</p> <p>The site contains small areas identified as being at risk from surface water flooding.</p> <p>The site is located within close proximity to the A1206, however, vehicles have to travel a small distance along Yabsley Street to join the A1206.</p> <p>The site does not appear to contain a proposed heat user nor is it located near to one.</p> <p>The whole area of the site is currently used for waste management purposes. However, only the north part of the site (0.2ha) has the potential to be intensified while the southern part would remain as a safeguarded wharf.</p> <p>The impact of the use on the amenity (including visual intrusion) of the residential receptors to the north is currently acceptable and can be expected to remain so given expansion of operations with retention of the existing buildings.</p> <p>Any future planning applications for the site will need to be accompanied by a Flood Risk Assessment (FRA) (a detailed breach assessment may also be required as part of the FRA), a Transport Assessment and the potential impacts on the River Thames and Tidal Tributaries SINC, Archaeological Priority Area and Coldharbour Conservation Area would need to be assessed.</p>
4	455 Wick Lane, E3 2TB	Civil Engineering and Highways	0.47	<p>Key benefits: The site is used as a yard for the operator's civil engineering contracting business with the permitted waste management use being ancillary, but active. Although the buildings on site are not all</p>

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
		Contractor Depot		<p>currently used for waste management purposes it is considered that they could be fit for waste management purposes.</p> <p>The impact of the existing waste management use as part of the operator's civil engineering business on the amenity of the residential receptors to the north is considered to be currently acceptable and could be expected to remain so.</p> <p>The site is screened from the nearest residential receptors by the existing buildings which surround the site. As such, visual intrusion is not considered to be an issue.</p> <p>The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario in the SFRA¹³, the site is not at risk from flooding.</p> <p>The site is located a short distance away from the A12 with vehicles travelling through an industrial estate to reach it. The site is also adjacent to the River Lea and there is potential to utilise the river to transport waste. The site is also adjacent to a site (ID 17) with an existing operational railhead. Discussions could be held with the operator of this site to determine whether there is capacity to utilise the railhead for transporting waste if necessary.</p> <p>As the waste management use currently forms part of a wider civil engineering contracting use it is considered there would be potential for the waste management operation to be expanded/ intensified were it to be dedicated to waste management alone.</p> <p>Key constraints: The site contains small areas which are at risk from surface water flooding.</p> <p>The site is located within an Archaeological Priority Area and is adjacent to the Lea Valley SINC.</p> <p>The site does not appear to contain a proposed heat user nor is it located near to one.</p>

¹³ London Borough of Tower Hamlets Strategic Flood Risk Assessment, Level 1 Draft Report. Aecom, 2016.

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>The site is considered to be suitable for a waste management facility if the whole site were to be utilised. As the waste management use is currently ancillary to the principal depot use there is potential for waste related operations to be expanded/intensified.</p> <p>The site is currently used for waste management purposes and is ideally located within an existing industrial estate. It also has the potential to open up access to more sustainable transport options via the River Lea and/or rail via an existing operational railhead at an adjacent site (ID 17). The possibility of using the river or the railhead would be subject to discussion and agreement on access and shared use.</p> <p>Any future planning applications for the site will need to be accompanied by a FRA, a Transport Assessment and assess the potential impacts on the Lea Valley SINC and Archaeological Priority Area.</p>
7	Iceland Wharf, Iceland Road, E3 2JP	Scrap metal recycling	0.44	<p>Key benefits: The site is currently used for waste management purposes. It is therefore considered that the buildings onsite and the site itself are fit for waste management purposes and the impact of the use on the amenity (including visual) of the residential receptors to the north is currently acceptable.</p> <p>Furthermore, as the site is currently operating as a waste management facility there is potential for the operation to be modified/ intensified.</p> <p>The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario in the SFRA¹⁴, the site is not at risk from flooding.</p> <p>The site is adjacent to the River Lea and there is potential to utilise the river to transport waste. The site is also within close proximity to a site (ID 17) with an existing operational railhead. Discussions should be held with the operator of this site to determine whether there is capacity to utilise</p>

¹⁴ London Borough of Tower Hamlets Strategic Flood Risk Assessment, Level 1 Draft Report. Aecom, 2016.

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>the railhead for transporting waste.</p> <p>Key constraints: The site is located within an Archaeological Priority Area and adjacent to the Lea Valley SINC.</p> <p>The site is located a short distance from the A12. However, vehicles have to travel past residential properties to reach it.</p> <p>The site does not appear to contain a proposed heat user nor is it located near to one.</p> <p>The site also contains small areas which are at risk from surface water flooding.</p> <p>The whole area of the site is considered to be suitable for a small scale waste management facility. The site is currently used for waste management purposes and is ideally located within an existing industrial estate. It also has the potential to open access to the River Lea so that waste could be transported via the water network. The site is also within close proximity to a site (ID 17) which has an existing operational railhead. However, the possibility of using the railhead is uncertain as discussions with the operator will need to be undertaken.</p> <p>Any future planning applications for the site will need to be accompanied by a FRA, a Transport Assessment and assess the potential impacts on the Lea Valley SINC and Archaeological Priority Area¹⁵.</p>
10	The Highway (Core) – Local Industrial Location	Industrial Estate – Multiple Uses	2.71	<p>Key benefits: The estate contains a number of units /buildings which could be converted to be used as a waste management facility with minor adjustment.</p> <p>The estate does not contain an existing waste management facility but does contain the Cemex Stepney Plant which provides the potential for possible synergy to be developed.</p>

¹⁵ Note – The site is within the administrative area of LLDC, therefore LBTH is unable to allocate this site for waste management purposes. LBTH and LLDC, together with the GLA will therefore be responsible for finding a mechanism to allocate this site if LBTH are to meet their strategic and local responsibilities.

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>The estate does not contain nor is it adjacent to any nature conservation designations. It also does not appear to contain any undesignated nature conservation interests.</p> <p>The estate has a suitable direct access onto the A1203.</p> <p>Key constraints: The estate also contains units and buildings of varying size some of which are too small to be suitable to accommodate a waste management facility without demolition. However there are some units of sufficient size and hence the estate as a whole is considered suitable to identify as an area of search or opportunity.</p> <p>There are a number of residential properties along Bere Street, Cranford Street and Cable Street and a Holiday Inn Express. More residential properties are located along Cable Street and the Shadwell Centre (Idea Store) is located along Schoolhouse Lane. Subject to the type and location of waste management use, there could be some adverse impact on the amenity (including visual) of the locality, although this would need to be considered in the context of the existing permitted uses on the estate as a whole.</p> <p>The site is located within the York Square Conservation Area and an Archaeological Priority Area. It also contains listed walls, bollards and gate piers along Ratcliffe Orchard which might be affected depending on the actual location of a proposed use and small areas which are at risk from surface water flooding.</p> <p>The site is adjacent to two Green Grid Walking routes, one Primary walking route and one LBTH walking route.</p> <p>The site is not within close proximity to a wharf, railhead or canal and hence does not offer any more sustainable transport opportunities hence all movements would be expected to be road borne.</p> <p>The site does not appear to contain a proposed heat user nor is it located near to one.</p> <p>The estate is considered to be suitable to be identified as an 'area of search' for a proposed waste management facility, rather than</p>

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>allocation as a specific site. The estate has a number of units and buildings which could be suitable to accommodate a proposed waste management facility with access direct onto the A1203. Although the estate includes a number of residential properties, a hotel and is adjacent to further residential properties and the Shadwell Centre, it is considered that a waste management facility could be accommodated onsite subject to careful design and satisfactory mitigation of any amenity issues at the planning application stage.</p> <p>The estate also has opportunities for co-location and the potential to develop a synergy with the Cemex Stepney Plant located within the estate.</p> <p>Any proposed waste management facility would be required to take into account the heritage designations located within the estate and the walking routes adjacent to the estate. A Transport Assessment would also be required.</p> <p>However, a proposed waste management facility at the estate may be considered out of character when compared to the existing uses on the site and within the locality although a lower intensity facility such as a refurbishment and reuse social enterprise might present a good fit.</p>
12	Empson Street – Strategic Industrial Location	Industrial Estate – Multiple Uses	10.07	<p>Key benefits: The estate contains a number of units and buildings which could be converted to be used as a waste management facility with only minor adjustments required.</p> <p>The estate is located immediately adjacent to the Limehouse Cut hence providing potential for transport of waste by water.</p> <p>The estate contains an existing waste management facility (ID 1) and the Mix It concrete plant. The location of these facilities may provide opportunity that can arise from co-location and the potential to develop synergies.</p> <p>The estate is located within Flood Risk Zones 2 and 3. However, as</p>

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>illustrated in the defended scenario within the SFRA¹⁶, it is not at risk from flooding.</p> <p>Key constraints: The estate contains units and buildings of varying size some of which are too small to be suitable to accommodate a waste management facility without demolition. However there are some units of sufficient size and hence the estate as a whole is considered suitable to identify as an area of search or opportunity.</p> <p>The northern boundary of the estate is immediately adjacent to residential properties along Empson Street and the B140. Subject to the actual location of a proposed waste management facility within the estate, there could be an impact on the amenity (including visual) of the residential properties surrounding the site. Although this would need to be considered in the context of the existing permitted uses on the estate as a whole</p> <p>The estate contains one Primary walking route and is immediately adjacent to another Primary walking route, a Green Grid walking route and a LBTH walking route.</p> <p>The estate is located within the Limehouse Cut Conservation Area and small areas of the estate are at risk from surface water flooding. The site is also adjacent to the Limehouse Cut SINC.</p> <p>The estate is located a short distance away from the A12. However, vehicles will have to travel along B140 and adjacent to residential properties to reach the A12.</p> <p>The estate does not appear to contain a proposed heat user nor is it located near to one.</p> <p>The estate is considered to be suitable to be identified as an 'area of search' for a proposed waste management facility rather than allocation as a specific site. The estate has a number of units and buildings which would be suitable to accommodate a proposed waste management facility. Vehicles would have to travel along the B140. However, HGVs and waste management vehicles already</p>

¹⁶ London Borough of Tower Hamlets Strategic Flood Risk Assessment, Level 1 Draft Report. Aecom, 2016.

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>leave the site and use this route to join the A12.</p> <p>Although the estate is adjacent to residential properties it is considered that a proposed waste management facility could be accommodated onsite subject to careful design and satisfactory mitigation of any amenity issues at the planning application stage.</p> <p>The estate also has the potential to develop a synergy with the Mix It concrete plant and/or the existing waste management facility (ID 1) which are located within the site.</p> <p>Any future planning applications will need to be accompanied by a FRA, a Transport Assessment and assess the potential impacts on the Limehouse Cut SINC, Limehouse Cut Conservation Area and the walking routes within and outwith the site.</p>
14	Fish Island –Fish Island Strategic Industrial Location B1a2 (LLDC)	Industrial Estate – Multiple Uses	9.21	<p>Key benefits: The estate contains a number of units and buildings which could be converted to be used as a waste management facility with only minor adjustments required.</p> <p>The estate contains an existing waste management use (ID 4) which has already been identified as having potential to expand and/ or intensify waste related operations. The estate also contains a site currently used for concrete batching, aggregates supply and the importation of concrete blocks (ID 17) and is located adjacent to another waste management facility (ID 7). As such, there is the opportunity for co-location of waste management uses and the potential for synergies between processes.</p> <p>The estate has direct access onto the A12 and contains an existing operational railhead. Discussions should be held with the operator of this site to determine whether there is capacity to utilise the railhead for transporting waste. The estate is also located adjacent to the River Lea</p>

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>and has the potential to utilise the river to transport waste.</p> <p>The estate is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario within the SFRA¹⁷, the estate is not at risk from flooding.</p> <p>Key constraints: The estate contains units and buildings of varying size some of which are too small to be suitable to accommodate a waste management facility without demolition.</p> <p>The estate is immediately adjacent to residential properties located to the north and approximately 60m east of additional residential properties. Subject to the specific location of a proposed waste management facility within the estate, the facility could have an impact on the amenity (including visual) of the residential properties surrounding the estate. Although this would need to be considered in the context of the existing permitted uses on the estate as a whole.</p> <p>The estate is located within an Archaeological Priority Area and adjacent to the Lea Valley SINC. Small areas of the estate are also at risk from surface water flooding.</p> <p>Two Green Grid walking routes and one Primary walking route are located adjacent to the estate.</p> <p>The estate does not appear to contain a proposed heat user nor is it located near to one.</p> <p>The estate is considered to be suitable to be identified as an 'area of search' for a proposed waste management facility rather than allocation as a specific site. The estate has a number of units and buildings which would be suitable as a proposed waste management facility and has direct access on to the A12.</p> <p>Although the estate is adjacent to residential properties it is considered that a proposed waste management facility could be accommodated onsite subject to careful design and satisfactory</p>

¹⁷ London Borough of Tower Hamlets Strategic Flood Risk Assessment, Level 1 Draft Report. Aecom, 2016.

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>mitigation of any amenity issues at the planning application stage.</p> <p>The estate already contains one waste management facility (ID 4) and is adjacent to another (ID 7). The estate also contains a facility which is used for concrete batching, aggregates and the importation of concrete blocks (ID 17). The location of these facilities within the estate provides opportunities for co-location and the possibility of synergies being created between the existing uses and/or a proposed waste management facility.</p> <p>The estate also contains a site (ID 17) which has an existing operational railhead. However, the possibility of using the railhead is uncertain as discussions with the operator will need to be undertaken.</p> <p>Any future planning applications will need to be accompanied by a FRA, a Transport Assessment and assess the potential impacts on the Lea Valley SINC, Archaeological Priority Area and walking routes adjacent to the site.</p>
16	Land at Wick Lane, Fish Island	Vacant	0.69	<p>Key benefits: The site is located within close proximity to the River Lea with the potential for it to be accessed through existing industrial uses (including two existing waste facilities (ID 4 and ID 7)). The site is also within close proximity of a site within an existing operational railhead (ID 17). Discussions should be held with the operators of the sites to determine whether there is capacity to utilise the River Lea or railhead for transporting waste.</p> <p>The site is located within close proximity to two existing waste management facilities (ID 4 and ID 7) which provides the opportunity to develop synergies between the sites. The site is also within close proximity of a site which is currently used for concrete batching, aggregates and the importation of concrete blocks (ID 17). As such, there is also the potential for synergies to be developed with this site.</p> <p>The site does not contain nor is it adjacent to any nature conservation designations. It also does not appear to contain any undesignated nature</p>

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>conservation interests.</p> <p>The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario the site is not at risk from flooding.</p> <p>Key constraints: The majority of the site is cleared. However, there are a number of buildings along the site’s eastern boundary which are derelict and are likely to require demolition. This is however uncertain.</p> <p>The site has direct access onto the road network. However, it is likely that it will need to be widened to allow HGVs to enter and egress the site safely.</p> <p>The site is adjacent to residential properties located to the north and approximately 120m to the east of additional residential properties. As such, there could be an impact on the amenity (including visual) of the residential properties surrounding the site.</p> <p>The site is located a short distance from the A12. However, vehicles have to travel past residential properties to reach it.</p> <p>The site is located within an Archaeological Priority Area and contains small areas which are at risk from surface water flooding. A Green Grid walking route and Primary walking route are also located adjacent to the site.</p> <p>The site does not appear to contain a proposed heat user nor is it located near to one.</p> <p>The whole area of the site is considered suitable to accommodate a waste management facility. The site is currently vacant and has been cleared, with only two derelict buildings standing on the eastern boundary. Widening of the access splay to the highway is likely to be required. However, this should not hinder the redevelopment of the site for waste management purposes.</p> <p>Although the site is adjacent to residential properties, it is considered that a proposed waste management facility could be accommodated onsite subject to careful design and satisfactory</p>

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>mitigation of any amenity issues at the planning application stage.</p> <p>The site is located within close proximity of two existing waste management facilities (ID 4 and ID 7) and a site currently used for concrete batching, aggregates and the importation of concrete blocks (ID 17). As such, there is potential for synergies to be developed with these sites.</p> <p>The site is also located within close proximity to the River Lea and existing railhead. However, the possibility of using the River Lea or railhead is uncertain as discussions with the operator of a site adjacent to the river and the operator of railhead will need to be undertaken.</p> <p>The site is also only a short distance away from the A12.</p> <p>Any future planning applications for the site will need to be accompanied by a FRA, a Transport Assessment and assess the potential impacts on the Archaeological Priority Area and walking routes adjacent to the site.</p>
17	Bow Midland Depot, Wick Lane, E3 2TB	Construction industry, including an operational railhead	3.16	<p>Key benefits: The site is large and open and would not require any major changes to accommodate a proposed waste management facility.</p> <p>The site contains an existing operational railhead and is immediately adjacent to the River Lea with potential for the river to be used to transport waste.</p> <p>The site has direct access onto the A12. However, at the time of the site visit there was a moderate amount of traffic on the route which was as a result of the site's location immediately adjacent to a set of traffic lights which provide access onto the A12.</p> <p>The site is adjacent to an existing waste management facility (ID 4) and within close proximity of a second (ID 7). It is therefore considered that there is potential for synergies between the sites. Furthermore, the site is currently used for concrete batching, aggregates and the importation of concrete blocks. As such, there is the potential for the co-location of a CDEW facility onsite which could provide the raw products to produce</p>

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>concrete or aggregates.</p> <p>The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario within the SFRA¹⁸, the site is not at risk from flooding.</p> <p>Key constraints: The site has a number of buildings onsite. However, none of them are suitable for conversion to a waste management facility.</p> <p>The site is approximately 70m to the east and 160m to the south of a number of residential properties. Subject to the specific location of a proposed waste management facility within the site, the facility could have an impact on the amenity (including visual) of the residential properties within and surrounding the site.</p> <p>The site is located within an Archaeological Priority Area, adjacent to the Lea Valley SINC and small areas of the site are at risk from surface water flooding.</p> <p>The site does not appear to contain a proposed heat user onsite, nor is it located near to one.</p> <p>Part of the site is suitable to accommodate a small scale waste management facility. The operator has confirmed that the site is used intensively for construction industry purposes and they would not want the site safeguarded for waste as it is a strategic hub for the construction industry. Further discussions should be undertaken with the operator to explore the option of co-location, as the site is well placed for a waste management use as it could create synergies with the existing operations onsite, allow the utilisation of the existing railhead and/or open up the River Lea to transport waste.</p> <p>Although residential properties are located within the vicinity of the site it is considered that a proposed waste management facility could be accommodated onsite subject to careful design and satisfactory mitigation of any amenity issues at the planning</p>

¹⁸ London Borough of Tower Hamlets Strategic Flood Risk Assessment, Level 1 Draft Report. Aecom, 2016.

Site ID	Site Name	Current Use	Area (ha)	Overall suitability of site for waste management use
				<p>application stage.</p> <p>Any future planning applications for the site will need to be accompanied by a FRA, a Transport Assessment and assess the potential impacts on the Lea Valley SINC and Archaeological Priority Area¹⁹.</p>

¹⁹ Note – The site is within the administrative area of LLDC, therefore LBTH is unable to allocate this site for waste management purposes. LBTH and LLDC, together with the GLA will therefore be responsible for finding a mechanism to allocate this site if LBTH are to meet their strategic and local responsibilities.

Summary

- 1.21 **Table 1.9** below summarises the overall suitability of the short listed sites identified in LBTH. It demonstrates that all of the sites assessed in detail are considered suitable for waste management purposes either in the form of a site specific allocation or an area of search. However, as noted above in **Table 1.8**, there are some issues that would require more detailed assessment at the planning application stage, such as flood risk, transport and access, potential impacts on nearby residential areas, SINCs, or Archaeological Priority Areas. The availability of each site for waste management over the Local Plan period will need to be considered further through the wider process informing the delivery of the new Local Plan.

Table 1.9: Summary of Overall Suitability of Short List of Sites

Site ID	Site name	Overall suitability	Site area (ha)
1	Clifford House, Towcester Road, E3 3ND	Whole site suitable	0.46
2	Northumberland Wharf, Yabsley Street, E14 9RG	Part site suitable	0.2
Total area offered by the suitable sites within Tower Hamlets under LBTH aegis			0.66

- 1.22 The two industrial estates/areas identified as suitable for inclusion as 'areas of search' would be unlikely to be completely available so only part of the full floorspace area has been included. Unit size varies within each of the industrial estates and **Table 1.10** sets out the floorspace of some of the larger units which might be suitable for use for waste management purposes. The possibility of combining two adjacent units or more should not be discounted as it is common practice in other situations. It should be noted that being located within an industrial estate means that facilities may be accommodated within smaller footprints as the facility area does not necessarily have to include space for vehicle manoeuvring or highway access as that can occur offsite within the wider estate.

Table 1.10: Areas of Search and Unit Sizes

Site ID	Site name	Overall area (ha)	Unit sizes
10	The Highway (Core) – Local Industrial Location	2.71	Unit size varies with some of the larger units having a floorspace of circa 0.03ha. 3x unit assumed i.e. 0.09ha
12	Empson Street – Strategic Industrial Location	10.07	Unit size varies. Floorspace of the larger units varies between 0.1-0.5ha. 0.4ha floorspace assumed

Land within LLDC

- 1.23 The following sites/areas listed in **Table 1.11 and 1.12** were identified and assessed as potentially suitable to accommodate waste management development but while falling within the Borough are under the aegis of LLDC, therefore it is not possible for LBTH to unilaterally allocate it. For the land to be taken forward for allocation to meet an identified need of Tower Hamlets, agreement will need to be established.

Table 1.11 Sites falling within Tower Hamlets subject to LLDC aegis

Site ID	Site name	Overall suitability	Site area (ha)
4	455 Wick Lane, E3 2TB	Whole site suitable	0.47
7	Iceland Wharf, Iceland Road, E3 2JP	Whole site suitable	0.44
16	Land at Wick Lane, Fish Island	Whole site suitable	0.69
Total area offered by LLDC suitable sites			1.60

Table 1.12 Areas of Search falling within Tower Hamlets subject to LLDC aegis

Site ID	Site name	Overall area (ha)	Available land
14	Fish Island –Fish Island Strategic Industrial Location B1a2 (LLDC)	9.21	Unit size varies. Floorspace of the larger units varies between 0.05-0.2ha. 2 large units i.e. 0.4ha floorspace assumed
17	Bow Midland Depot, Wick Lane, E3 2TB (LLDC)	3.16 Whole site suitable but only part likely to be available	Circa 0.3 ha (10% of total)



**London Borough of Tower Hamlets:
Waste Management Evidence Base**

Report for Workstream 4

Waste Flows & Duty to Cooperate.

BPP Consulting LLP

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1 The Duty to Cooperate

Section 110 of the Localism Act 2011 inserted section 33A into the Planning and Compulsory Purchase Act 2004 which requires Councils to cooperate with other local planning authorities, county councils and bodies or other persons as prescribed. The Duty to Cooperate imposes, in particular, a duty to: “engage constructively, actively and on an ongoing basis”. This is required in relation to “maximising the effectiveness” of, and having “regard to”, activities concerned with supporting or preparing planning policies “so far as relating to a strategic matter” (S33A).

As such the Duty places a legal duty on Councils to engage “constructively, actively and on an on-going basis” in “maximising the effectiveness” of Local Plans.

The Duty applies to the preparation of development plan documents, and activities which prepare the way for, and which support, the preparation of development plan documents, in so far as they relate to a strategic matter. A strategic matter is defined as “sustainable development or use of land that has or would have a significant impact on at least two planning areas including... in connection with infrastructure that is strategic...” (S33A(4)). Waste management qualifies as a strategic matter for the purposes of the duty.

In addition the National Planning Policy for Waste (October 2014) 7 requires that in preparing waste plans WPAs should, to the extent appropriate to their responsibilities.....

.....work jointly and collaboratively with other planning authorities to collect and share data and information on waste arisings, and take account of:

- (i) waste arisings across neighbouring waste planning authority areas;

It goes further and states that when preparing Local Plans WPAs “work collaboratively in groups with other waste planning authorities... through the statutory duty to cooperate, to provide a suitable network of facilities to deliver sustainable waste management” (paragraph 3).

National Planning Practice Guidance (PPG) provides further guidance on how the Duty is to be applied to waste management stating that “Waste is a strategic issue which can be addressed effectively through close co-operation between waste planning authorities and other local planning authorities and public bodies to ensure a suitable and sustainable network of waste management facilities is in place.” (Paragraph: 015 Reference ID: 28-015-

20141016). and while there is no definitive list of actions that constitute effective cooperation under the duty it may include:

- gathering, evaluating and ensuring consistency of data and information required to prepare Local Plans. This may include joint commissioning of studies or the joint preparation of an evidence base
- engaging actively in dialogue, particularly on those types of wastes or waste facilities that will impact most on neighbouring authorities
- active engagement, where necessary, with planning authorities wider than just those who are their more immediate neighbours, particularly if dealing with waste streams for which there is a need for few facilities
- jointly monitoring waste arisings and capacity.

It goes on to state that "The duty to cooperate will be particularly important where waste planning authorities are unable to identify sufficient, suitable, opportunities for waste management facilities – for instance, because of a lack of physical capacity or because to do so would cause significant harm to the principles and policies in the National Planning Policy Framework...,. The search for suitable opportunities should be in line with the waste management hierarchy and, having regard to the self-sufficiency and proximity principles... *Paragraph: 017 Reference ID: 28-017-20141016 Does this apply to identifying suitable sites and areas for waste management facilities?*

With regard to London's waste the PPG states "Given the unique waste needs of London, there is likely to be a need for waste planning authorities surrounding London to take some of London's waste. The Mayor and waste planning authorities in London should engage constructively, actively and on an ongoing basis with other authorities, under the duty to cooperate, to help manage London's waste." *Paragraph: 044 Reference ID: 28-044-20141016 How should waste planning authorities plan for London's waste?*

1.1 Working collaboratively in groups with other waste planning authorities.

As the Waste Planning Authority for Tower Hamlets, the London Borough of Tower Hamlets (LBTH) has chosen to develop its own waste strategy that its Local Plan will aim to deliver. This is in contrast to many other Boroughs within the capital that are working together to develop joint waste management plans. In the process these Boroughs may pool their apportionments. Figure 1 shows the groupings that exist within London¹. While the diagram presents the groupings of Boroughs working together as Waste Disposal Authorities, the same groupings exist for the purposes of Waste Planning. In addition, the London Boroughs of Bexley, Bromley, Greenwich, Lewisham and Southwark have formed the South East London Waste Planning Group (SEWPG) and are considering pooling apportionments. The City of London has sought to be party to this collaborative venture by entering into a financial arrangement with LB Bexley in return for access to existing capacity being written into the LB Bexley plan.



Figure 1: Collaborative Groupings For Waste Planning Within London

¹ From Figure 3 of the Mayor's Municipal Waste Management Strategy (November 2011)

1.1.1 Identifying Possible Partner Authorities

1.1.1.1 Adjoining Authorities

LBTH shares contiguous borders with the following waste planning entities going clockwise:

Table 1: Authorities with which LBTH shares a contiguous border.

Waste Planning Preparation entity	WPA
North London Waste Plan (NLWP):	Hackney
London Legacy Development Corporation (LLDC)	LLDC
East London Waste Plan (ELWP):	Newham
South East London Waste Planning Group (SEWPG) (via R Thames)	Greenwich Lewisham Southwark
City of London	City of London

LBTH has engaged with each of the waste plan preparation entities either directly as Borough to Borough or via the grouping. Approaches have been made both with a view to pooling apportionments and joining the groupings themselves. This engagement is evidenced by the documents presented in Appendix 1 of this document.

1.1.1.1.1 The London Legacy Development Corporation (LLDC)

Since 1st October 2012 the LLDC exercises planning powers over parts of Tower Hamlets and adjoining Boroughs of Hackney, Newham and Waltham Forest. It has prepared and adopted a Local Plan (July 2015). This includes policies that commit the LLDC to cooperating with the four constituent Boroughs in matters of strategic waste management and planning. The LLDC's DPD is the local development plan for its area for development management purposes and it would be LLDC that would determine any application for a waste use that comes forward on land falling under its aegis. However, in contrast to the other Development Corporations in London, the London Boroughs have remained responsible for meeting the London Plan waste apportionments.

In addition, according to London Plan Policy 2.4 (The 2012 games and their legacy), LBTH is expected to "reflect and give full planning weight to the LLDC's DPD when preparing their own DPDs."

LBTH has engaged with LLDC on an ongoing basis with regard to the possibility of identifying suitable sites falling under the LLDC jurisdiction for allocation in the LBTH Plan to meet the Borough-wide apportionment. Drafts of proposed policy including allocations have been shared and comments received from LLDC taken into account. This is evidenced in Appendix 2.

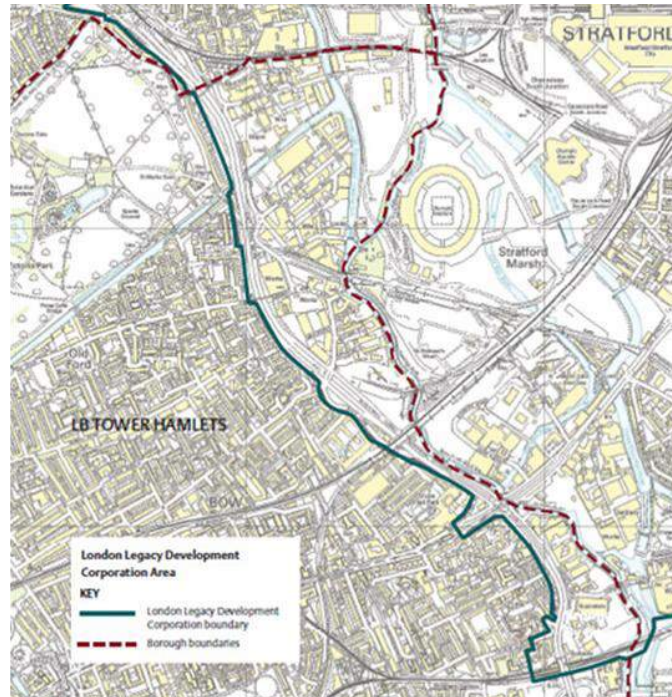


Figure 2: Area of LBTH subject to exercise of LLDC planning powers
(area between green line to left and red dashed line to right of centre)

1.1.1.2 Authorities Sharing Frontage to the Thames

LBTH is one of 17 London Boroughs that share a frontage onto the River Thames. In addition, LBTH hosts one of only five active riparian wharves engaged in waste management, Northumberland Wharf, (the others being Cringle Dock (LB Wandsworth), Walbrook Wharf (City of London), Smugglers Way (LB Wandsworth), and Riverside Wharf (Bexley)). Northumberland Wharf is primarily used to transport waste collected from within and beyond LBTH to the Belvedere Energy from Waste Plant in Bexley by way of the river Thames. It therefore could be said to play a strategically important role in the management of London's waste through a means that is particularly promoted by the London Plan and Mayor's Blue Ribbon Network. It also has a direct supply relationship with LB Bexley via the River Thames through Northumberland Wharf supplying the Belvedere EfW plant both operated by Cory Environmental Ltd.

1.2 Waste Apportionments And Engagement

Being mindful of its obligations under the London Plan to seek to meet its apportionment, and the limitation in available land within the Borough, LBTH has been working to engage the support of adjacent authorities with regard to accommodating any shortfall in capacity. LBTH has engaged with the London WPAs with which it shares a common border regarding the issue of 'waste apportionments'. In particular letters have been sent to other London WPAs requesting, under the duty to cooperate, consideration regarding any spare waste management capacity they might be able to share. All recipient WPAs responded to the letter. Evidence of this ongoing effort to secure cooperation can be found in Appendix 1. Meetings have also been held with representatives of the GLA to resolve the issue of meeting both housing targets and apportionments. This is evidenced in Appendix 3.

2 Patterns Of Waste Movements

2.1.1 Active engagement with wider planning authorities

LBTH is also mindful that the management of Tower Hamlets waste relies on facilities hosted by adjacent WPAs and further afield. It has therefore sought to engage with these WPAs to establish the prospect of continuation of current flows and whether any impediment exists to their possible intensification.

The starting point is the examination of the EA Waste Data Interrogator and WasteDataFlow data for 2014. While waste movements can vary from year to year, the following tables set out Tower Hamlets' waste imports and exports for the past three years (2012-2014).

Table 2: Tower Hamlets waste flows balance 2012-2014

Source: Waste Data Interrogator 2012-2014

	2012	2013	2014
Waste arising in LBTH managed in LBTH (WDI)	56,323	1,521	13
Waste arising elsewhere managed in LBTH (WDI)	75,386	197,094	178,383
Total Waste Managed in LBTH	131,709	198,615	178,396
Waste arising in LBTH managed elsewhere (WDI)	-240,526	-351,895	-344,291
Net Self Sufficiency	-108,817	-153,280	-165,895
'Net self sufficiency %'	55%	58%	52%

NB: the use of the term "arising in LBTH" is based on where it has been attributed to LBTH.

Table 2 shows that Tower Hamlets is consistently a net exporter of waste with the % net self sufficiency being around 55%.

In 2014 the amount of waste reported to have arisen in Tower Hamlets and managed in Tower Hamlets was only 13 tonnes. It is clear this is an anomaly due to the lack of specific attribution of inputs to Tower Hamlets sites (see WS1/2 report). This means that a significant proportion of the inputs to LBTH sites reported as being from other sources would have come from LBTH. However, the lack of attribution makes no difference to the net self-sufficiency balance as it is all counted as waste managed in LBTH. The actual shortfall indicated is probably exaggerated as there may be an element of double counting in waste managed within LBTH then going on to other sites for further management and being counted again there.

2.1.2 Non Hazardous & Inert Waste Flows

Table 3 shows the main destinations of non-hazardous and inert waste exports from Tower Hamlets in rank order. Detailed examination of the totals indicates that the movements that might be classed as significant went to a relatively small number of sites.

Table 3: Main destinations of [all/LACW, C&I, CDEW] waste exports from Tower Hamlets (1,000 tonnes+) in rank order 2014.

Source: Waste Data Interrogator 2014 plus Wastedataflow 2014

Receiving WPA	Tonnes	Region	No Receiving Sites
Havering LB	83,814	London	5
Thurrock UA	77,206	East of England	2
Essex CC	74,616	East of England	1
Bexley LB	57,934	London	2
Barking & Dagenham LB	25,000	London	2
Lewisham LB	25,977	London	1
Greenwich RLB	19,107	London	1
Waltham Forest LB	18,095	London	1
Enfield LB	14,070	London	1
Newham LB	13,430	London	1
Totals	409,247		17

The above WPAs were all contacted to confirm (or otherwise) the continued availability of capacity at the receiving sites. Key responses are presented in Appendix 4.

Table 4 shows the breakdown of non-hazardous and inert waste flows from Tower Hamlets within London and to outside London.

Table 4: Flows data showing movements of Non-Hazardous & Inert Waste within and outwith London

	Managed within London	Tonnes Managed 2014	% total	
East London WPAs	Barking & Dagenham	23,129	30%	
	Newham	13,430		
	Havering			25,396
				27,945
				15,642
				10,788
				4,043
	120,372			
South East London WPAs	Greenwich	19,107	25%	
	Bexley	33,789		
		24,145		
	Lewisham	25,977		
	103,017			
North London WPAs	Waltham Forest	18,095	8%	
	Enfield	14,070		
		32,165		
Managed outside London East of England	Essex WPA	74,616	37%	
	Thurrock WPA	39,626		
		37,580		
		151,822		

The main waste movements out of Tower Hamlets are to the east (67%) and south (25%) of the borough.

It is understood that the two major movements outside London are for inert waste going for recovery or restoration of sites such as quarries. Such movements will be provided for on an ad hoc basis as and when material is generated and flows to the nearest appropriate facility available at that time.

Figure 3 below shows the fates that waste arising from LBTH is subject to, distinguished between inert and household and commercial and industrial waste. From this it is apparent that a very small proportion (3%) of the overall quantity of waste managed from LBTH ends up disposed in non-hazardous (mixed) waste landfill.

LBTH Waste Management Evidence Base, 2016

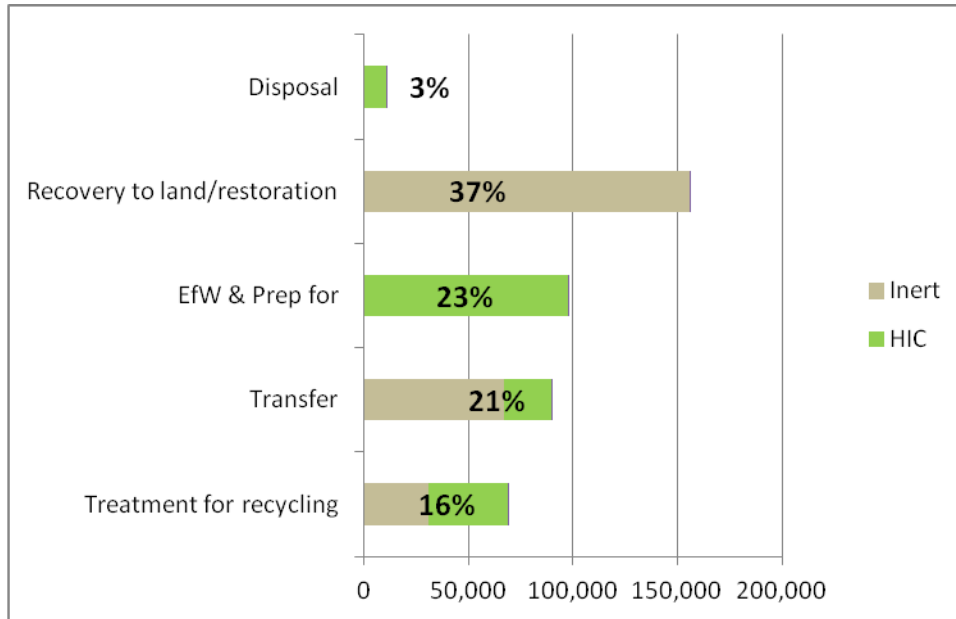


Figure 3: Management Profile of Non Hazardous & Inert Waste Attributed to LBTH by Waste Type

LBTH Waste Management Evidence Base, 2016

Examination of the EA Waste Data Interrogator and WasteDataFlow data for 2014 shows the following breakdown of movements of non hazardous and inert waste to sites by receiving WPAs circa 5,000 tonnes from Tower Hamlets.

Table 5: Principal Receiving Sites for LBTH waste beyond the Plan Area

Managed within London	Site Name	Operator	Type	Tonnes Managed 2014
East London WPAs				
Barking & Dagenham	75 - 77 Chequers Lane	R White Waste Management Ltd	Transfer	23,129
Newham	Recycling & Recovery Centre	Bywaters (Leyton) Ltd	Physical-Chemical Treatment	13,430
Havering	Frog Island	Shanks Waste Management	MBT	25,396
	Rainham Landfill	Veolia ES Landfill Limited	Landfill	27,945
	Ingrebourne Links	Ingrebourne Valley Ltd	Deposit of waste to land (recovery)	15,642
	Veolia Inert Soils Coldharbour Lane	Veolia E S Cleanaway (U K) Ltd	Physical Treatment	10,788
	York Road, Rainham	Kilnbridge Construction Services Ltd	Transfer	4,043
				120,372
South East London WPAs				
Greenwich	Victoria Deep Water Terminal	H Sivyver (Transport) Limited	Treatment	19,107
Bexley	Belvedere	Riverside Resource Recovery	EfW	33,789
	Crayford	Viridor	MRF	24,145
Lewisham	Selchp	Veolia	EfW	25,977
				103,017
North London WPAs				
Waltham Forest	Osiers Way, Leyton	Bywaters (1986) Limited	Transfer	18,095
Enfield	Edmonton EcoPark	London Waste Ltd	EfW	14,070
				32,165
Managed outside London				
East of England				
Essex WPA	Pitsea Landfill	Veolia ES Landfill Limited	Landfill	74,616
Thurrock WPA	East Tilbury Quarry	S Walsh And Son Limited	Inert LF	39,626
	Land At North Tilbury	S Walsh And Sons Limited	Deposit of waste to land (recovery)	37,580
				151,822

LBTH Waste Management Evidence Base, 2016

2.1.3 Hazardous Waste Flows

Table 6 shows the destinations of hazardous waste exports from Tower Hamlets in 2014. Recipient sites have a greater geographical spread than those receiving non-hazardous and inert waste. This reflects the wider catchment area of specialist hazardous waste management facilities.

Examination of the EA HWI and comparison with EA WDI to identify sites handling 500 tonnes or more in 2014 as follows:

Table 6: Principal Receiving Sites For LBTH Hazardous Waste Beyond The Plan Area

Source: Hazardous Waste Data Interrogator & WDI 2014

Receiving WPA	Site Name	Operator	Facility Type	Tonnes	Waste Types
Staffordshire	Meece 1 Landfill Site	Biffa Waste Services Ltd	Landfill with biological treatment	5,057	Soil & Stones
Newham	Williams Environmental Management Ltd	Williams Environmental Management Ltd	Hazardous Waste Transfer for recovery	2,312	Soil & Stones
Surrey	Patterson Court Redhill	Biffa Waste Services Ltd	Landfill with biological treatment	1,779	Asbestos and soil & stones
Kent	Pinden Quarry	Pinden Limited	Hazardous Merchant LF (asbestos only)	445	Asbestos and soil & stones
Northamptonshire	East Northants Resource Management Facility	Augean South Limited	Hazardous Merchant LF	586	Asbestos & dangerous substances

The host WPAs were all contacted to confirm (or otherwise) the continued availability of capacity at the receiving sites. The responses are summarised in Table 7.

3 Duty to Co-operate Inquiry Responses

Respondent Waste Planning Authorities were invited to respond to the following:

1. State if you know of any reason why the information contained in the attached table may not be correct. If you do please explain why.
2. As the latest data relates to 2014 please confirm that the facilities listed are still operational. If not, please provide information on when and why the site ceased to operate and if there are any reasons why operations might not recommence in future.
3. If they are still operational or have been replaced by similar facilities, in terms of management capacity, are there any planning reasons you are aware of that might mean the acceptance of wastes cannot continue, such as consent end dates? If so can you please specify these for each receiving facility identified?
4. Do you have any specific policies about providing for waste from outside your Plan area (and specifically from London) and if so what are these.
5. Do you have any other comments regarding cross boundary movements of waste with Tower Hamlets?

Table 7 presents a summary of the responses received and their implications for the status of specific sites indicated as currently relied upon for management of the Plan Area's waste. The responses received are summarised in Table 7 and key responses reproduced in Appendix 4.

LBTH Waste Management Evidence Base, 2016

Table 7: Status Assessment of Principal Receiving Sites For LBTH Waste Beyond The Plan Area (in Rank Order)

WPA	Site Name	Operator	Type	Tonnes Managed 2014	Waste Type	Site Status	Action Required
Essex CC	Pitsea Landfill	Veolia ES Landfill Limited	Landfill	74,616	CDEW/HIC	An application to extend operations until 2025 has been approved.	Alternative outlet required post 2025.
Thurrock UA	East Tilbury Quarry	S Walsh And Son Limited	Inert Landfill	39,626	CDEW	Site closes 2020	Alternative outlet required post 2020.
	Land At North Tilbury	S Walsh And Sons Limited	Deposit of waste to land (recovery)	37,580	CDEW	Site has closed	Alternative outlet required
Bexley	Belvedere	Riverside Resource Recovery	EfW	33,789	HIC	There are no planning reasons that might mean the acceptance of wastes to these facilities would end. Both sites ...are...important waste sites within the borough.	None
Havering	Rainham	Veolia ES Landfill Limited	Landfill	27,945	CDEW/HIC	closing 2024/2026	Alternative outlet required post 2026
Lewisham	Selchp	Veolia	EfW	25,977	HIC	There are no planning reasons why the acceptance of wastes cannot continue.	None
Bexley	Crayford	Viridor	MRF	24,145	HIC	There are no planning reasons that might mean the acceptance of wastes to these facilities would end. Both sites ... are ...important waste sites within the borough.	None
Havering	Frog Island	Shanks Waste Management	MBT	23,525	HIC	Facility services ELWA MSW long term contract	None
Barking & Dagenham	75 - 77 Chequers Lane	R White Waste Management Ltd (formerly Hunts)	Transfer	23,129	CDEW	The site has permanent planning permission for waste use and safeguarded in Joint Waste Development Plan for the East London Waste Authority Boroughs	None
Greenwich	Victoria Deep Water Terminal	H Sivyer (Transport) Limited	Treatment	19,107	CDEW	There are no planning reasons why the acceptance of wastes cannot continue. The site is a safeguarded wharf in active use.	None
Waltham Forest	Bywaters (1986) Limited	Bywaters (1986) Limited	Transfer	18,095	HIC	This site falls within the boundary of the Northern Olympic Fringe AAP and has been identified as a location suitable for redevelopment... The proposal includes re-provision of the existing capacity at the operator's sister site in Newham.	Alternative outlet required at some future date
Havering	Ingrebourne Links	Ingrebourne Valley Ltd	Deposit of waste to land (recovery)	15,642	CDEW	not available long term	Alternative outlet required at some future date
Enfield	Edmonton EcoPark	London Waste Ltd	EfW	14,070	HIC	The existing Edmonton facility is likely to be replaced with a new Energy Recovery Facility (ERF) in 2025. ...until at least 2050.	None
Newham	Recycling & Recovery Centre	Bywaters (Leyton) Ltd	Physical-Chemical Treatment	13,430	HIC	There are no planning reasons why the acceptance of wastes cannot continue.	None
Havering	Veolia Inert Soils Coldharbour Lane	Veolia E S Cleanaway (U K) Ltd	Physical Treatment	10,788	CDEW	closing 2018	Alternative outlet required post 2018
Barking & Dagenham	Barking MRF 54-60 River Road	Mc Grath Brothers (Waste Control) Ltd	Transfer	8,975	MSW/CDEW	Operator has confirmed the continued availability of the site as providing compensatory provision for Hepscoth Road	None
Staffordshire CC	Meece 1 Landfill Site	Biffa Waste Services Ltd	Landfill with biological treatment	5,057	Hazardous	2035 is the current cessation date for soil recycling.	None
Havering	York Road, Rainham	Kilnbridge Construction Services Ltd	Transfer	4,043	CDEW	The site has permanent planning permission for waste use.	None
Newham	Unit 3 Charles Street Industrial Estate	Williams Environmental Management Ltd	Hazardous Waste Transfer for recovery	2,312	Hazardous	The site is within the Silvertown Quays development area so will, at some point, close.	Alternative outlet required at some future date
Surrey CC	Patterson Court Redhill	Biffa Waste Services Ltd	Landfill with biological treatment	1,779	Hazardous	The site will cease to operate beyond 2030, and is anticipated to stop receiving waste before this date.	Alternative outlet required post 2030
Northamptonshire CC	East Northants Resource Management Facility	Augean South Limited	Hazardous Merchant LF	586	Hazardous	The Kings Cliffe site is currently only permitted until 2026 and the soil treatment part of this is unlikely to continue after the landfill closes. The other site is Storefield Lodge – Rushton which currently has a permission running until Sept 2030.	None
Kent CC	Pinden Quarry	Pinden Limited	Hazardous Merchant LF (asbestos only)	445	Hazardous	The site is operational and can continue to operate into the future; it requires working and restoration to be completed by 21st February 2042.	None

3.1 Addressing Potential Capacity Shortfalls

The tonnages going to those sites whose lives were indicated in response as 'limited', and therefore for which the waste currently managed may need to go to alternatives outlets over the Plan period, have been totalled by waste stream as follows

Table 8: Indicative Capacity Shortfall based on DtC Responses by Waste Type (2014 data)

Type	Action Required	CDEW	HIC	Hazardous
Landfill	Alternative outlet required post 2025.		74,616	
Inert Landfill	Alternative outlet required post 2020.	39,626		
Deposit of waste to land (recovery)	Alternative outlet required	37,580		
Landfill	Alternative outlet required post 2026		27,945	
Transfer	Alternative outlet required at some future date		18,095	
Deposit of waste to land (recovery)	Alternative outlet required at some future date	15,642		
Physical Treatment	Alternative outlet required post 2018	10,788		
Hazardous Waste Transfer for recovery	Alternative outlet required at some future date			2,312
Landfill with biological treatment	Alternative outlet required post 2030			1,779
		103,635	120,656	4,091

Taking each of the above streams in turn:

3.1.1 Providing for CDEW Arisings from Tower Hamlets

Based on 2014 arisings and flows, a possible capacity shortfall of around 100,000 tonnes per annum is indicated by the DtC responses for principally the permanent deposit of inert waste, either in recovery operations or at inert landfill. C,D&E Waste arisings are not subject to apportionment in the London Plan. While there is an expectation that C,D & E Waste might be managed within the Plan area, given the land constraints and the development pressure that is not considered to be a realistic prospect. Hence management of this waste stream relies on a two-pronged strategy:

1. Promotion of reduction of waste produced and the onsite management of waste that does arise.

This is currently achieved by the inclusion of in draft Policy.

2. Identification of outlets for ongoing management of C,D & E Waste outside LBTH

A review of available capacity at inert landfill within proximity to the Plan Area has been undertaken. This has been based on a listing of permitted inert landfills with remaining void at the end of 2014 as kept by the Environment Agency. These sites have been mapped with isochrones (calculated by the Microsoft Mapping Tool Model using real travel time

information) to establish whether they fall within reasonable driving time of the Plan Area. This exercise assumes that waste will travel by road only.



Figure 4: Location & Drivetime isochrones to Consented Inert Landfill Capacity to receive LBTH Waste

3.1.1.1 40 minute drivetime from centre of LBTH

40 minutes was used as that encompasses the site in Thurrock that received around 40,000 tonnes in 2014 indicating this is a minimum viable journey time. 5 inert landfill sites including that in Thurrock plus 3 other sites - 1 in Thurrock and 2 in Kent - fall within the isochrone showing there are readily available alternatives within the same driving distance.

3.1.1.2 60 minute drivetime from centre of LBTH

If the drivetime is increased to 60 minutes - which may be perfectly viable particularly given opportunity to backhaul loads of mineral produced at the receiving sites - then a further 10 sites fall within the 'flow zone' for the Plan Area bringing the population of available sites to 15.

3.1.2 Site Capacities & Consented Lifetimes

The capacities and lifetimes of the 15 'target' landfills i.e. those falling within the 60 minute drivetime isochrone have been assessed to confirm the continued availability of capacity to LBTH throughout the Plan period. Table 9 shows the outcome of this screening process with sites listed in order of when they are expected to cease operation.

Table 9: Consented Inert Landfill Capacity within 60 minutes drivetime of LBTH (2014 data)

Site Name	2014 Remaining Landfill Capacity (cubic metres)	Consented Cessation Date if known/specific	Waste Planning Authority
Great Westwood Landfill	50,830	2015	Hertfordshire
Sandon Quarry	715,176	2017	Essex
Land at Russell Green,	85,000	2019	Essex
Stone Pit 2 (St. James Lane)	3,230,102	2019	Kent
Anstey Chalk Quarry	295,360	2020	Hertfordshire
Widdington Pit	186,425	2023	Essex
Borough Green Sandpit (Platt)	685,500	2025	Kent
Royal Oak Quarry	490,000	2027	Essex
Highwood Quarry Inert Landfill	1,659,035	2027	Essex
Lenham Quarry	355,500	2027	Kent
Tyttenhanger Landfill Site	8,140,650	2032	Hertfordshire
East Peckham Quarry	450,000	2033	Kent
Borough Green Landfill	4,310,585	2042	Kent
Hermitage Quarry	9,900,000	2073	Kent

Table 9 demonstrates that there are facilities within sufficient proximity to the Plan Area that offer over 30 million cubic metres of void space in totality. This is more than ample for the potential management shortfall identified of circa 100,000 tpa from the Plan Area. Further, the consented lifespans of a number of sites providing substantial capacity more than exceed the Plan period. This positive outcome is based on a pessimistic assessment as it does not count all consented mineral workings identified as providing future inert waste management capacity in local plans which are yet to be fully worked and then backfilled. Also it does not pay regard to the consenting of recovery to land and operational development projects which tend to arise on an ad hoc basis and last a limited number of years. Nor does it allow for the possibility that waste may be suitable for conversion into recycled aggregate as more sophisticated processing plant gets established.

3.2 Policy for management of London's inert waste

Since all 'target sites' identified in Table 9 fall within Kent, Essex or Hertfordshire, a review of plan policy for these areas has been undertaken to establish that there are no policy impediments to the utilisation of the identified sites to receive inert waste from London.

3.2.1 Essex & Southend on Sea replacement Waste Local Plan

The replacement Waste Local Plan is currently undergoing examination. The pre-submission version of the Plan (March 2016) refers to making provision for 310,000 tpa of inert waste from London and a reducing amount of non hazardous waste.

The Plan also seeks to allocate additional capacity for inert landfill of 11.6 million tonnes.

3.2.2 Kent Minerals and Waste Local Plan

The Kent Minerals and Waste Local Plan adopted in July 2016 includes a policy relating to Inert Waste Management in Kent (Policy CSW 12). This refers to the fact that provision is made within the Plan for the continued receipt of inert (other waste imports are covered elsewhere in the Plan) in the following terms:

"6.11.2 The *Needs Assessment* shows that Kent has a surfeit of existing permitted inert landfill capacity that is more than sufficient to meet Kent's need for the plan period. It is known that Kent receives a lot of waste originating out of the county, particularly from London, which goes into inert landfill in Kent. The *Needs Assessment* tested the effects of this import continuing throughout the plan period at a rate of 300,000 tpa and concluded that this would still result in a surplus of inert capacity of over 10 mt at the end of the plan period."

3.2.3 Hertfordshire Waste Development Framework

The Waste Core Strategy & Development Management Policies Development Plan Document 2011-2026 adopted November 2012 makes no explicit reference to providing for London's inert waste.

The above review indicates that there are no policy impediments to utilisation of the existing sites identified and further still that both Kent and Essex are making provision for future movements of inert waste for the full plan period.

3.2.4 Providing for CDEW Arisings from Tower Hamlets: Conclusion

The above assessment indicates that there is plentiful inert waste management capacity available within reasonable distance of the Plan Area to manage any inert waste arising from Tower Hamlets that might not continue to be managed through existing arrangements for the duration of the Plan period.

3.2.5 Providing for Non Hazardous Waste Arisings from Tower Hamlets

Based on 2014 arisings and flows, a possible capacity shortfall of around 100,000 tonnes per annum is indicated by the DtC responses for the landfilling of non hazardous waste residues plus around 18,000 tonnes per annum of this waste type in recycling operations. Since Non - Hazardous Waste is essentially LACW (aka MSW) and C&I Waste covered by the London Plan apportionments the strategy to address any capacity shortfall is largely addressed by the safeguarding of key sites and the proposed allocation of land for provision of future capacity as detailed in Workstream 1/2 report.

However, there may be an element of processing residues that currently goes to landfill that may require alternative outlets given the limited lifespan of receiving sites as identified in the DtC exercise (summarised in Table 6).

Therefore, a review of available capacity at non-hazardous waste landfill within proximity to the Plan Area has been undertaken. This has been based on a listing of permitted non-hazardous waste landfills with remaining void at the end of 2014 as kept by the Environment Agency. These sites have been mapped with isochrones to establish whether they fall within reasonable driving time of the Plan Area. Again, this exercise assumes that waste will travel by road only.

3.2.6 Site Capacities & Consented Lifetimes

The capacities and lifetimes of the 14 'target' landfills i.e. those falling within the 60 minute drivetime isochrone have been assessed to confirm the continued availability of capacity to LBTH throughout the Plan period. Table 10 shows the outcome of this process with sites listed in order of when they are expected to cease operation.

Table 10: Consented Non Hazardous Waste Landfill Capacity within 60 minute drivetime of LBTH (2014 data)

Site Name	2014 Remaining Landfill Capacity (cubic metres)	Completion Date	Waste Planning Authority
Gerrards Cross	885,006	2017	Buckinghamshire
Barling Marsh	445,774	2017	Essex
Runfold South	291,010	2018	Surrey
Brookhurstwood	658,243	2018	West Sussex
Greatness Quarry	304,941	2019	Kent
Bellhouse	4,882,171	2022	Essex
Pitsea	2,519,941	2025	Essex
Westmill II	2,584,514	2025	Hertfordshire
Springfield Farm	10,098,726	2029	Buckinghamshire
Redhill	5,526,265	2030	Surrey
Elsenham	3,098,597	2030	Essex
Ockendon	4,505,680	TBC	Thurrock
Bletchley	14,541,260	TBC	Buckinghamshire
Shelford	2,693,451	TBC	Kent
Star Works	152,340	TBC	Windsor & Maidenhead

Table 10 demonstrates that there are facilities within sufficient proximity to the Plan Area that offer over 53 million cubic metres of void space in totality. This is more than ample for the potential management shortfall identified of circa 120,000 tpa from the Plan Area should landfill still be required. Further, the consented lifespans of a number of sites providing substantial capacity more than exceed the Plan period.

3.3 Policy for management of London's non-inert waste

A review of plan policy for the host WPAs has been undertaken to establish that there are no policy impediments to the utilisation of the identified sites to receive non-hazardous waste from London.

3.3.1 Essex & Southend on Sea replacement Waste Local Plan

The replacement Waste Local Plan is currently undergoing examination. The pre-submission version of the Plan (March 2016) refers to making provision for a reducing amount of non hazardous waste.

The matter of flows of non-hazardous waste from London was specifically addressed at the examination hearings with Thurrock UA and the North London Waste Plan making authorities making representations. As a result further work was undertaken on behalf of the plan making authorities². This concluded that:

" Section 4.21 Non Hazardous Waste

There has been and will continue to be cross boundary movements of waste. It has been identified within National planning practice guidance states that imports of waste from Greater London to the Plan area requires specific consideration. The Vision & Strategic Objectives of this Plan recognizes the need to continue to make provision for imports from London albeit at a reducing rate. It has been calculated that for non-hazardous waste this may be in the region of 375,000 tpa in the early years of the Plan reducing down to around 150,000 tpa at the end of the Plan period. After 2026 imports to landfill should only be of non-recyclable and non biodegradable wastes, while some provision may also be made for the management of residues suitable for energy recovery at consented plant. "

It is anticipated that a modification to that effect will be included within the rWLP which will be subject to consultation before the end of the year prior to adoption.

3.3.2 Kent Minerals and Waste Local Plan

The Kent Minerals and Waste Local Plan adopted in July 2016 includes a policy relating to Non-Inert Waste Management in Kent (Policy CSW 12). This refers to the fact that provision is made within the Plan for the continued receipt of non-inert waste imports in the following terms:

Provision for Waste From London

6.3.4 Specific provision in the calculations for new capacity required for non-hazardous waste going to landfill or EfW has been made for waste from London.

² BPP Consulting Report for Essex County Council & Southend-on-Sea Council Review of Waste Flows with London Final Report Issued: 30th September 2016

...The Plan anticipates an increase in the amount of waste coming into Kent for disposal in 2018 since the non-hazardous landfill in Havering is expected to close by the end of 2017.

...For the period of 2017 to 2030, the Plan makes provision for 87,000 tpa of London non-hazardous waste being disposed in Kent at non-hazardous landfill and EfW facilities.

The above is then translated into the following policy

Policy CSW 7: Waste Management for Non-hazardous Waste

In seeking to be as self-sufficient as possible in managing non-hazardous waste arisings in Kent, and for providing for limited amounts of non-hazardous waste from London, sufficient sites for waste management facilities will be identified in the Waste Sites Plan to meet identified needs as a minimum, including the following capacity. (emphasis added)

The Kent Waste Sites Plan is commencing preparation.

3.3.3 Hertfordshire Waste Development Framework

Para 4.12 of the Waste Core Strategy & Development Management Policies Development Plan Document 2011-2026 adopted November 2012 refers to making future provision for London's waste in the following terms:

"... London's waste should, after 2015, be restricted to residual waste requiring landfill as the only practical option left following recovery and treatment. The acceptability of new non-landfill waste facilities to deal with waste primarily from outside the region will depend on a clear benefit, such as provision of a specialist processing or treatment facility and enabling the recovery of more locally arising wastes."

3.3.4 Buckinghamshire County Council Minerals and Waste Core Strategy

Para 5.84 of the Waste Core Strategy states that:

"The MWCS therefore provides for up to 2.30Mt for the future landfill of waste imported from London and for the purpose of assessing future landfill needs in Buckinghamshire between 2010 and 2026."

This is then translated into the following policy.

Policy CS16: Management of Imported Waste

Provision of up to 2.30 Mt capacity will be made within Buckinghamshire for the landfill of a declining amount of waste imported from London in the period to 2026.

The County Council will resist proposals that seek to extend the life of existing consented landfill sites or to create new landfill sites where a significant proportion of the waste handled would originate outside Buckinghamshire.

Proposals for facilities in Buckinghamshire primarily intended for management of imported wastes by any means other than landfill will also be resisted.

Provision for energy recovery from imported waste will only exceptionally be made where there are demonstrable benefits to Buckinghamshire, including improving the viability of recovery activity within the county, consistent with Policy CS9.

With respect to the adequacy of landfill to 2026 paragraph 5.79 states:

"...there will be sufficient landfill capacity available at 2026 and beyond to handle both Buckinghamshire's own non-hazardous and inert materials (including planned imports from London) throughout the Plan period."

This is then translated into the following policy.

Policy CSI 5: Landfill

No additional landfill capacity for non-hazardous and inert waste will be provided within Buckinghamshire in the period to 2026. Where additional capacity results from planning consents for new mineral extraction sites with restoration, the presumption is that voidspace will be filled with inert material.

This review indicates that there are no policy impediments to utilisation of the existing sites identified and further still that both Kent and Essex Plans are making provision for future movements of non hazardous waste for management the full Plan period whether it be to landfill or through other management routes. Hertfordshire and Buckinghamshire have more restrictive policies but do still seek to make some provision albeit on a reducing and more limited basis.

3.3.5 Providing for Non Hazardous Waste Arisings from Tower Hamlets: Conclusion

The above assessment indicates that there is plentiful landfill capacity available within reasonable distance of the Plan Area for the duration of the Plan period.

3.3.6 Providing for Hazardous Waste Arisings from Tower Hamlets

Based on 2014 arisings and flows a possible capacity shortfall of around 4,000 tonnes per annum is indicated by the DtC responses for principally contaminated soils that fall within this waste stream. However response from other WPAs principally Staffordshire, Northamptonshire and Kent indicate the continued availability of management capacity for this type of waste. Since hazardous waste is not covered by apportionments nor the national policy expectation of self sufficiency the strategy to address any capacity shortfall is to rely on the market to provide suitable management facilities at regional level. This reflects the national policy position as enshrined in the Strategy for Hazardous Waste Management in England published in March 2010³.

3.3.7 Providing for Hazardous Waste Arisings from Tower Hamlets: Conclusion

The above assessment indicates that management capacity should be available at alternative facilities for the duration of the Plan period.

³ A Strategy for Hazardous Waste Management in England (Defra 2010).

LBTH Waste Management Evidence Base, 2016

Appendix 1: Evidence of DtC Engagement

Representor	Issues raised
<p>Archie Onslow Camden On behalf of North London Waste Plan (NLWP):</p> <ul style="list-style-type: none"> • Camden • Barnet • Enfield • Hackney • Haringey • Islington • Waltham Forest 	<p>On 2nd December 2013 you wrote to me to formally register Tower Hamlets’ interest in joining the NLWP. The North London Boroughs have given detailed consideration to your request and I attach our response to your letter. (Letter dated 11 June 2014)</p> <p><i>Email dated 11 June 2014 following meeting with NWLP reps 29 October 2013.</i></p>
<p>Will Steadman London Legacy Development Corporation (LLDC) Covered by:</p> <ul style="list-style-type: none"> • NLWP (Hackney, Waltham Forest) • ELWP (Newham) • Tower Hamlets 	<p>LLDC & LBTH to jointly approach London Borough of Barking & Dagenham about the potential for and terms under which a reapportionment of LBTH’s waste target can be secured;</p> <p>LLDC & LBTH to consider discussions with other Boroughs to explore the options for reappportioning their waste target;</p> <p>The GLA to formalise any agreed reapportionment within the next London Plan review (as only small amendments can be accommodated within the FALP without reopening the methodology). Linked to this, The GLA will look at the tensions between the objectives of the Mayoral Development Corporations and the planning requirements of the London Boroughs with a view to easing those tensions.’</p> <p><i>Email dated 20 May 2014 post meeting with Andrew Richmond GLA.</i></p>

LBTH Waste Management Evidence Base, 2016

<p>Daniel Pope Barking & Dagenham On behalf of East London Waste Plan Area (ELWA):</p> <ul style="list-style-type: none"> • Barking & • Dagenham • Havering • Newham • Redbridge 	<p>We have recently approved three waste facilities which once on stream will in total comfortably surpass (by 120,000 tonnes a year) the capacity gap of the four ELWA boroughs and therefore the ELWA apportionment. Our (the ELWA) apportionment is significantly greater than the waste arising in the ELWA area so by meeting it we are already importing significant amounts of waste from other parts of London.</p> <p>Therefore I am afraid we (at least LBBD) <u>have no interest in taking other boroughs waste over and above what is committed in the London Plan</u>. We have our own regeneration objectives and managing more waste than we have too is not one of them. Sorry to be so blunt but in partnership with Redbridge, Havering and Newham we went to considerable effort to adopt our Joint Waste Plan and our strategy is very clear.</p> <p><i>Email dated 4 June 2014</i></p>
<p>Michael Atkins Bexley On behalf of South East London Waste Planning Group (SEWPG):</p> <ul style="list-style-type: none"> • Bexley • Bromley • Lewisham • Greenwich • Southwark • City of London 	<p>Sorry for the late reply – just to let you know that the South East London Joint Waste Planning Group have now met and discussed next steps in regards to the South East London Joint Waste Technical Paper. An update of the technical paper will be carried out this year in light of the recent changes to the waste apportionment figures in The London Plan (March 2015). This needs to be done this year to support the London Borough of Bromley’s Local Plan development. The update will also be required to reflect actual waste throughput and any planned site changes that collectively meet waste apportionment (as required by the LDF parts of London Plan policy 5.17), as well as to input the amended waste apportionment targets contained in the 2015 London Plan. The update will also incorporate an assessment of planned growth within the South East joint waste group area, and the associated future waste requirements.</p> <p>This will ensure that our evidence and the technical paper itself is up-to-date, and will identify any potential surplus capacity in the South East London joint waste planning group area. We have recently responded to a duty to co-operate request from the Western Riverside Waste Authority with this response, also stating that prior to this update being carried out, we cannot enter into formal discussions regarding any additional pooling of waste apportionments, however prior to any discussions we have asked to review the WRWA’s evidence base in regards to waste, and the methodology</p>

LBTH Waste Management Evidence Base, 2016

	<p>used to calculate waste capacity across the WRWA area.</p> <p><i>Email dated 15 July 2015</i></p>
<p>Janet Laban City of London Partially covered by SEWPG above</p>	<p>It was good to meet you all yesterday. As discussed Clare Loops is the best person to contact regarding the South East London joint waste technical paper</p> <p><i>Email dated 24 October 2013 following meeting 23rd October 2013</i></p>
<p>Responses to DtC Requests from other WPAs</p>	
<p>Gillian Kavanagh Western Riverside Waste Authority</p>	<p>I welcome your correspondence on this matter as part of our duty to Cooperate, and acknowledge the request from the Western Riverside Waste Authority (WRWA) boroughs. to London Borough of Tower Hamlets for assistance in meeting your waste apportionment targets. I regret to say that London Borough of Tower Hamlets is not in a position to provide assistance in this matter.</p> <p><i>Letter dated 9 November 2015</i></p>
<p>Bethany Jones Essex County council</p>	<p>I understand that Essex County Council are currently preparing a Replacement Waste local Plan and work is underway on the Pre-submission Plan and that as such data is required to understand waste capacity needs. Officers will respond to the three questions detailed in your letter at the earliest opportunity.</p> <p><i>Tower Hamlets has begun work on a new Local Plan. Waste matters will form one of the core pieces of evidence base to be developed. The first round of public consultation is programmed to commence in December 2015. We will consult with North London Waste Plan Authorities and relevant stakeholders. Part of the challenge the Local Plan will need to address is how we meet our responsibilities as a Waste Authority whilst managing pressures to release safeguarded sites for development. As part of the duty to cooperate, we may seek assistance from other boroughs and waste authorities in the future to help us our meet our duties.</i></p> <p>Letter dated 4 December 2015 follows</p>

LBTH Waste Management Evidence Base, 2016

<p>Archie Onslow North London Waste Plan</p>	<p>Full text of letter follows</p> <p>Tower Hamlets has begun work on a new Local Plan. Waste matters will form one of the core pieces of evidence base to be developed. The first round of public consultation is programmed to commence in December 2015. We will consult with North London Waste Plan Authorities and relevant stakeholders. Part of the challenge the Local Plan will need to address is how we meet our responsibilities as a Waste Authority whilst managing pressures to release safeguarded sites for development. As part of the duty to cooperate, we may seek assistance from other boroughs and waste authorities in the future to help us our meet our duties.</p>
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Bethany Jones
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4th December 2015

LB Tower Hamlets,
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Dear Ms. Jones,

Re: Essex County Council and Southend-on-Sea Borough Council Joint Replacement Waste Local Plan – Cross Border Waste Movements

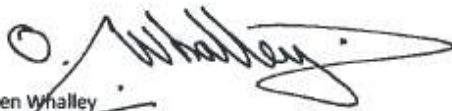
Thank you for your letter regarding the above matter dated 23rd November 2015. I am writing to engage constructively as part of our duty to cooperate on the strategic matter of planning for waste.

I understand that Essex County Council and Southend-on-Sea Borough Council are currently preparing a Replacement Waste Local Plan and work is underway on the Pre-Submission Plan and that as such data is required to understand waste capacity needs. Officers will respond to the three questions detailed in your letter at the earliest opportunity. I trust this will be acceptable to your team.

Tower Hamlets has begun work on a new Local Plan. Waste matters will form one of the core pieces of evidence base to be developed. The first round of public consultation is programmed to commence in December 2015. We will consult with relevant stakeholders. Part of the challenge the Local Plan will need to address, is how we meet our responsibilities as a Waste and Planning Authority: managing pressures to release safeguarded sites for development and managing waste movement. As part of the duty to cooperate, we may seek assistance from other boroughs and waste authorities in the future to help us meet our duties.

I appreciate the opportunity to engage with you on these matters. Should you have any questions, please do not hesitate to get in touch.

Yours sincerely,



Owen Whalley
Head of Planning and Building Control



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Richard Finch
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11th June 2014

Dear Richard

North London Waste Plan

Thank you for your letter of 2nd December 2013 that formally registered the London Borough of Tower Hamlets' interest in joining the North London Boroughs who are jointly preparing the North London Waste Plan (NLWP). You requested that in developing the NLWP, consideration is given to taking on all, or part, of Tower Hamlets' London Plan waste apportionment target.

This request followed a meeting on 29th October 2013 between Tower Hamlets officers and the NLWP. At that meeting you stated that Tower Hamlets needed about 4ha to meet their apportionment. The final document in Tower Hamlets' Local Plan, the Development Management DPD, is now adopted. It safeguards existing waste sites but does not allocate any new sites to meet waste apportionment targets. It also directs windfall waste use to SIL and LSIS. You told us that, as the borough with the highest housing target in London, sites that might have been suitable for waste use are now under strong pressure for regeneration and housing use. The GLA has expressed concern that apportionment targets would not be met and advised Tower Hamlets to liaise with other London boroughs to ensure their apportionment can be met. In addition to the NLWP, you told us that Tower Hamlets has also approached the East London Waste Plan group and the South East consortium of boroughs co-ordinated by Bexley.

The North London Boroughs have looked at three main areas when considering the request from Tower Hamlets to join the NLWP:

- The current waste picture in Tower Hamlets
- The range of options available to Tower Hamlets
- The impact on the NLWP preparation process and costs involved

The current waste picture in Tower Hamlets

We have been investigating the waste situation in Tower Hamlets and detailed work is included in the Background Paper on Waste in Tower Hamlets (Appendix A). The following issues have come to light on which we seek your views

1. The Tower Hamlets' Managing Development Document (MDD) identifies six waste management facilities in the borough. Looking at the Waste Data Interrogator we can only find evidence of five currently operating. Can you confirm the waste sites in Tower Hamlets?
2. Although MDD para 14.4 states that the waste facilities are enough to meet the borough's apportionment targets, in fact only the capacity at McGrath Material Recycling Facility is available to "manage" waste in Tower Hamlets and contribute to the borough' apportionment target. The other facilities are transfer stations and the London Plan excludes transfer stations from approved waste management routes (LP para 5.75). We also note the other facilities are small scale sites under 1 hectare and less likely to provide opportunities for intensification. The North London Boroughs understand from Tower Hamlets that the McGrath facility is due to close in the near future. Can you confirm this analysis and consider how this impacts on the MDD's position that current facilities are enough to meet the borough's apportionment target?
3. Based on our understanding of the above, Tower Hamlets need to identify land for facilities to manage all of its waste arisings. It is not clear what calculation method was used to arrive at your range of between approximately 3.6 and 7.3 ha of land necessary to meet the apportionment targets (as identified in para 14.4 of the MDD) but, based on our findings in the Background Paper on Waste in Tower Hamlets, we consider that the requirement is likely to be more than the 4ha set out in the MDD. This would be the case even if the reduced apportionment target contained in the Further Alterations to the London Plan (FALP) is agreed. Can you confirm our understanding?

The current waste picture in Tower Hamlets is unclear. The MDD states that current facilities are enough to meet waste apportionment targets, and Core Strategy policy safeguards existing sites; yet Tower Hamlets are approaching other London boroughs to help meet their apportionment targets. Our own findings support the view that Tower Hamlets do not have enough facilities to manage apportioned waste. The North London Boroughs consider that a review of Tower Hamlets' waste policies and evidence base may be necessary to ensure clarity on this issue.

The range of options available to Tower Hamlets

As well as looking at the current waste management situation in Tower Hamlets, our background work has looked at the flow of waste in and out of the borough in order to understand what the most appropriate strategic solutions for waste planning might be.

The North London Boroughs have identified four main options for Tower Hamlets to plan for waste in their borough. These are discussed in turn below.

Preparing a unitary waste plan

Tower Hamlets are a unitary authority and have the option of planning for waste in their borough alone.

Partnership with the East London Boroughs

The East London Boroughs include Barking and Dagenham, Havering, Newham and Redbridge. Based on the findings of the Background Paper on Waste in Tower Hamlets, 36% of the total waste exports in 2012 occurred between Tower Hamlets and east London. The East London Boroughs currently have an adopted waste plan (ELWP), however it may be reviewed in the near future, particularly given the changes to waste apportionment proposed by the Further Alterations to the London Plan. This would provide Tower Hamlets with the opportunity to engage with the boroughs involved and participate in the ELWP.

Partnerships with the SE London boroughs

The South East London group is formed of six unitary waste planning authorities working together to identify and meet the sub-regional requirements for waste management facilities. The boroughs involved are Bexley, Bromley, City of London, Lewisham, Greenwich and Southwark. These boroughs collectively received 11% of the total waste exports from Tower Hamlets in 2012 representing a significant relationship with the borough in terms of waste movements. The SE London boroughs are working collaboratively on an evidence base but each borough has separate waste policies in their Local Plans. The group is not undertaking preparation of a joint waste plan.

Joining North London Boroughs to prepare NLWP

In contrast to the scenario with the East and South East London boroughs, Tower Hamlets has a relatively minor relationship with the north London boroughs of Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest in terms of waste movements (5% of the total in 2012). While a reasonably large amount of waste arising in Tower Hamlets is currently exported waste to a site in Waltham Forest (Bywaters), this facility is anticipated to move its operations to east London in the next few years. It is therefore likely that waste currently managed at the facility in Waltham Forest will be diverted to the operational facility in east London. All other waste movements between our areas in both directions are very small. While Tower Hamlets adjoins Hackney, one of the north London Boroughs, existing waste sites in north London are not contiguous to Tower Hamlets.

Given the information above, the North London Boroughs consider that the proposal for Tower Hamlets to join the north London boroughs in planning for waste is not justified by the pattern of waste flows between our two areas. The analysis indicates more reasonable options would be to seek partnership with the East London Boroughs or the SE London group.

The impact on the NLWP plan preparation process


While the North London Boroughs have not yet adopted a waste plan for their area, work is well underway on the NLWP. Including Tower Hamlets in the plan preparation process at this stage would necessitate starting the consultation process again and a major re-working

of the existing data study. This would be costly in terms of time and resources. Our research on this topic is attached as Appendix B: Impacts associated with Tower Hamlets joining the NLWP.

We estimate that Tower Hamlets joining the North London Boroughs in preparing the NLWP would add a further year to the process. This is due to re-doing some of the data study, sustainability appraisal, consultation, duty to co-operate and other work already undertaken. We estimate the cost for this catch-up work is in excess of £200,000. This additional cost would be borne by Tower Hamlets alone since the other boroughs have already paid for the work to be carried out. Thereafter the annual cost to Tower Hamlets of preparing the NLWP will be an average of £43k per year for the following three years.

In conclusion it is suggested that Tower Hamlets thoroughly explore each of the options above in order to find the most appropriate approach to planning for waste in the borough. The North London Boroughs hope that the attached background paper is helpful. However, based on the evidence provided in this letter and appendices, the North London Boroughs do not believe joining the NLWP is the most appropriate or reasonable solution for Tower Hamlets to meet its London Plan apportionment target. In addition, the North London Boroughs are concerned about introducing material delay to the NLWP preparation process. We look forward to receiving your views on this as well as a response to the queries on waste management facilities above.

Yours sincerely



Archie Onslow
Programme Manager



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Regeneration and Planning
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30th September 2015

Dear Mr. Onslow,

Re: Draft North London Waste Plan Consultation

I am writing to engage constructively as part of our duty to cooperate on the strategic matter of planning for waste.

The Draft North London Waste Plan Document discusses the requirements and options for identifying sufficient waste management capacity to meet an identified waste management need for the North London area over the plan period.

The spatial strategy detailed in this document identifies opportunities and constraints associated the physical implications of meeting need and the allocation of suitable sites to meet need. Tower Hamlets agree with part c of the spatial strategy which seeks to encourage co-location of facilities with complementary activities. Tower Hamlets similarly acknowledge the benefits of co-location as a means to optimise the potential of these sites. Co-location of uses and facilities is a core mechanism for ensuring the delivery of sustainable places and communities whilst also addressing the intensification of land uses in London. It also recognises the positive characteristics of sites that can be applied to different but complementary uses.

Tower Hamlets similarly consider changes to national policy, enabling the allocation of sites as well as areas for waste management, allows for flexibility that is positive for development. In addition to the benefits that the draft plan outlines, Tower Hamlets consider that allocation of sites should not blight the potential for development either on the safeguarded site of the surrounding sites.

Tower Hamlets has begun work on a new Local Plan. Waste matters will form one of the core pieces of evidence base to be developed. The first round of public consultation is programmed to commence in December 2015. We will consult with North London Waste Plan Authorities and relevant stakeholders. Part of the challenge the Local Plan will need to address is how we meet our responsibilities as a Waste Authority whilst managing pressures to release safeguarded sites for development. As part of the duty to cooperate, we may seek assistance from other boroughs and waste authorities in the future to help us our meet our duties.

I appreciate the opportunity to raise these matters. Should you have any questions, please do not hesitate to get in touch.

Yours sincerely,


Owen Whalley
Head of Planning and Building Control

LB Tower Hamlets,
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Planning & Building Control
Development & Renewal Directorate
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Appendix 2: Correspondence with LLDC

From: Will Steadman [mailto:WillSteadman@londonlegacy.co.uk]
Sent: 19 May 2014 10:38
To: Fiona Heyland; Andrew Richmond; Tim Ross; Richard Finch
Cc: Alex Savine
Subject: FW: McGrath Waste Site

Dear all

Further to our meeting on the 9th May, I set out below what I understand to be a summary of the key issues and actions (in sequential order):

1. To satisfy Part H of Policy 5.17 of the London Plan the McGraths must demonstrate that an additional compensatory site (e.g. River Road in LBBD) can meet the maximum throughput that the Hepscott Road site can achieve. WS to remind the McGraths of the importance of this first step;
2. In the event that the McGraths demonstrate that the River Road site can provide compensatory capacity, LLDC & LBTH to approach LBBD about the potential for and terms under which a reappportionment of LBTH's waste target can be secured;
3. If the McGraths cannot demonstrate the suitability of the River Road site, they should search for and identify an alternative (this could be anywhere in London).
4. LLDC & LBTH to consider discussions with other Boroughs to explore the options for reappportioning their waste target;
5. The GLA to formalise any agreed reappportionment within the next London Plan review (as only small amendments can be accommodated within the FALP without reopening the methodology). Linked to this, the GLA are reviewing the tension between the pressure to deliver housing on waste sites identified in existing and future Mayoral Development Corporation areas.

Please amend as you see fit so I can respond to the Planning consultant and Architects working for the McGraths.

Thanks

Will Steadman
Senior Planning Development Manager
Queen Elizabeth Olympic Park

London Legacy Development Corporation
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1 Stratford Place, Montfichet Road
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DDI: 020 3288 8835
Website: www.QueenElizabethOlympicPark.co.uk

Appendix 3: Correspondence with GLA



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The Queen's Walk
London
SE1 2AA

Development & Renewal
Head of Planning & Building Control
Planning & Building Control
2nd Floor
Mulberry Place
London
E14 2BG

Ref: OW/Management/DMTMANAGEMENT/P&BC/Admin1/2015/Waste_110915/YKA
Tel 020 7364 5314
Email: owen.whalley@towerhamlets.gov.uk

11th September 2015

Dear Stewart,

Tower Hamlets safeguarding land and London Plan waste apportionment targets

I am writing on the back of a meeting held at the Council offices on Wednesday 19th August between the GLA and LBTH. LBTH requested the meeting to discuss the borough's waste apportionment targets, our safeguarded land and the impacts of the development pressure being exerted on our safeguarded sites, particularly Alisa Street which is located in the Poplar Riverside Housing Zone and Hepscott Road which is located in the London Legacy Development Corporation.

The meeting was useful to initiate dialogue on this topic on the GLA's position with regards to waste apportionment targets and the practical transfer of waste management throughput. It is understood that while waste management throughput can be transferred from one site to another outside of the borough and accord with Policy 5.17 H of the London Plan, the waste apportionment figures associated with the site itself will not be transferred. My understanding from our meeting is that in order to re-allocate apportionment tonnage to the satisfaction of the GLA this can only be done if the borough has a signed agreement from another Authority, in order to satisfy Policy 5.17F.

It was helpful for GLA officers to clarify this position. Unfortunately, this does provide any assistance in terms of a viable and pragmatic solution to satisfying policy 5.17F. Leadership or support on how to find a mechanism or incentive to actively and positively engage with another Waste Authority or Borough to pool apportionment targets would be most welcome.

I remain to be convinced that a solution to this policy requirement, whereby Tower Hamlets makes a financial arrangement with another Authority to take on part or all of a waste apportionment target, is reasonable and serves the Tower Hamlets community.

It was felt that the meeting very much placed the responsibility of managing this strategic matter on Tower Hamlets, whilst removing the responsibility of the GLA. This distancing of responsibilities by the

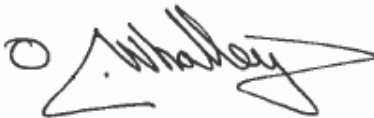


GLA is contrary to the assurances in the London Plan that the Mayor will work with boroughs and waste authorities to identify new opportunities for waste management capacity, duty to cooperate requirements and assurances in the pre-application letter to Austin Mackie relating to proposals for Hepscott Road. This pre-application letter stated that GLA officers were willing to facilitate 'discussion with other boroughs who may have the ability to pool existing apportionment requirements'.

With the initiation of the Local Plan Review and the anticipated planning application at Hepscott Road, the GLA need to provide leadership and guidance on this matter. This is a strategic matter which requires constructive and collaborative working, to ensure that development potential is realised and not blighted by inflexible policy that does not seek to balance the pressures for land.

It is requested that the GLA provide constructive guidance on how to make progress on this matter whilst acknowledging that Tower Hamlets are unable and unwilling to commit the borough to financial arrangements to deal with this matter. It is further requested that a response to this letter is made within 28 days of receipt and a follow up meeting is organised to discuss next steps.

Yours sincerely



Owen Whalley
Head of Planning and Building Control

cc: Colin Wilson – Strategic Planning Manager
Richard Linton – Principal Strategic Planner
Peter Heath – Senior Planner
Andrew Richmond – Policy and Programme Manager

Waste Management - Strategic Discussion - Notes from Meeting, 19/08/05

Attendees:

GLA

Andrew Richmond – Policy and Strategy Manager – Energy and Waste
Peter Heath – Senior Planner

LBTH

Owen Whalley – Head of Planning and Building Control
Tim Ross – Interim Team Leader Pre-Application Team
Sophie Hall-Thompson – Planning Policy Officer
Fiona Heyland – Head of Waste Management

Notes

- The purpose of the meeting was to discuss LBTH's waste apportionment figures and the associated safeguarding of land were discussed in light of pressures being exerted on land within Tower Hamlets and the LLDC, specifically the safeguarded sites at Hepscoth Road and Alisa Street.
- The strategic implications of the loss of these sites, representing LBTH's two largest safeguarded sites, were discussed in terms of development management and the LBTH Local Plan and the Local Plan Review.
- It was stated by LBTH that the loss of the safeguarded waste site to a non-waste based use would result in LBTH being unable to meet waste apportionment targets and on this basis LBTH would object to the proposals until the point at which a means for the borough to meet waste apportionment targets has been secured to the satisfaction of the GLA, LBTH and the LLDC.
- It was noted that the LLDC Local Plan (2015) site allocation for Hepscoth Road resists the loss of the use of the site unless the capacity can be re-provided elsewhere in London and the approach counts towards LBTH's waste apportionment figure.
- The GLA highlighted they had held discussion with the Hepscoth Road developers on the proposals for dealing with the practical transfer of waste management from Hepscoth Road to an alternative site at River Road, LBB&D. The developers sought to demonstrate that this alternative site has planning permission and sufficient additional waste management capacity to deal with the throughput currently dealt with at Hepscoth Road.
- The GLA confirmed that they were satisfied by the above approach as it meets with Policy 5.17 H of the London Plan (2015), which deals with waste capacity. The GLA further stated that the measure of throughput that can be used to determine what should be dealt with by an alternative site would be based on an historical and practical understanding of the tonnages that have passed through the site and not the Environmental Agency permits, the practical site capacity or the planning permission thresholds. The GLA stated that they were satisfied by the above approach with regards to meeting Policy 5.17 H of the London Plan (2015), which deals with waste capacity.
- LBTH highlighted that the above approach does not include a mechanism to meet our London Plan waste apportionment targets, and again on this basis LBTH would object to any proposals resulting in the loss of the existing use at Hepscoth Road / McGrath site. It was asked by LBTH if the apportionment target could be revised in light of this if the apportionment target could be linked to the alternative site at River Road, London Borough of Barking and Dagenham. GLA stated that the apportionment target would not be revised but, in accordance with London Plan Policy 5.17F, boroughs "may collaborate by pooling their apportionment targets".

- When asked how this could be achieved, the GLA did not elaborate on what mechanism or agreement could be used to secure an arrangement for pooling apportionment targets but it was noted that other boroughs, including Westminster and the City of London had pooled their apportionment targets but the specifics of these legal/ financial agreements were unknown.
- LBTH noted that although they had approached Waste Authorities across London to identify if there were possibilities for joint pooling of waste apportionment targets as a result of the downward waste apportionment figures in the FALP, no London based Waste Authorities were currently in a position to, or willing to, enter discussions with Tower Hamlets. It was noted that each borough has their own regeneration priorities and there was no incentive for boroughs to jointly pool waste apportionment targets.
- Further discussion outlined that an agreement could be arranged between two or more boroughs but also between boroughs and the landowner. The landowner could take on liability to ensure that throughput and capacity requirements were maintained in perpetuity and arrangements ensuring and transfer between boroughs in terms of capacity is also reflected in the pooling of apportionment figures between boroughs.
- It was agreed that these discussions, accurately reflected and agreed by LBTH and the GLA in the form of a note, could be used as a starting point for discussions with other relevant parties.

LBTH Waste Management Evidence Base, 2016

From: Richard Linton [mailto:Richard.Linton@london.gov.uk]
Sent: 20 November 2013 17:40
To: Richard Finch
Cc: Simone Williams; Gemma Hotchkiss; Michael Bell; Fiona Heyland; Duncan Brown; Peter Heath
Subject: RE: London Plan FALP waste apportionment targets

Hi Richard

Best I think if you get back to us after we've published the further alterations to the London Plan in January – then we will have something to talk about...

Rich

Richard Linton
Principal Strategic Planner
Spatial Strategy | GLA | Mayor of London
richard.linton@london.gov.uk
020 7983 4278
07880 992928

From: Richard Finch [mailto:Richard.Finch@towerhamlets.gov.uk]
Sent: 12 November 2013 15:49
To: Richard Linton
Cc: Simone Williams; Gemma Hotchkiss; Michael Bell; Fiona Heyland; duncan.brown@towerhamlets.gov.uk
Subject: London Plan FALP waste apportionment targets

Dear Richard

Following your helpful offer of a meeting on the GLA London Plan FALP waste apportionment targets with yourself and waste colleagues at our SHLAA focused meeting yesterday, it would be helpful if you would suggest a few meeting dates in late November/December when we could meet to discuss this matter in more detail.

We are happy to come over to City Hall.

Thanks for your attention.

Best regards.

Richard

Richard Finch | Team Leader Plan Making | Strategic Planning | Planning & Building Control | Development & Renewal | Tower Hamlets Council | Town Hall | Mulberry Place | 5 Clove Crescent | London E14 2BG | Tel: **020 7364 2541** | www.towerhamlets.gov.uk

Appendix 4: Key WPA responses to Flows Related DtC inquiries

While most WPAs simply addressed the site specifics as summarised in Table 7 of the main body of this report, Thurrock Council's response to the DtC enquiry relating to C, D and E Waste flows states:

"It is recognised that that C,D and E waste have been a significant amount of waste exported from London boroughs and other authorities in recent years to Thurrock. It cannot be assumed that current or previous tonnage quantities of C,D and E waste can be received from LB Tower Hamlets or other London waste authorities to Thurrock during the remainder of the current plan period or beyond for the following reasons:

1. Unless subject to contract the existing inert landfill capacity identified in the Thurrock plan is not specifically apportioned for London authorities.
2. The Thurrock adopted Core Strategy identifies specific Inert landfill capacity for meeting local requirements and does not plan for additional capacity during the plan period.
3. The main sites operating and receiving C,D and E waste are planned to close during the plan period (2026).
4. There remains uncertainty over the mothballed mineral site and the future availability of consented capacity at these sites.
5. Uncertainty regarding the levels of capacity or confirmation regarding data.
6. Unless contracted any waste export from LB Tower Hamlets there will be potentially competing for sites to receive such waste within the wider south east; from major construction and excavation projects in London and wider south east areas; waste arisings for export in other waste plans in London as well as other waste requirements of the authorities in Thurrock and the East of England themselves.

For the above reasons Thurrock would wish to continue in discussion via the Duty to Cooperate process regarding any assumptions about the role and capacity of Thurrock landfill sites to receive C, D and E waste in particular from London Boroughs."



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Sophie Hall-Thompson
Strategic Planning
London Borough of Tower Hamlets
PO BOX 55739
London
E14 1BY

BY EMAIL

26th July 2016

Dear Sophie

I am writing to you on behalf of the London Boroughs of Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest (the "North London Boroughs") who are working together to prepare the North London Waste Plan (NLWP).

The North London Boroughs have previously corresponded with Tower Hamlets on waste movements between our areas. We also made comments in February 2016 relating to waste on Tower Hamlets' Local Plan consultation document "Our Borough, Our Plan: A New Local Plan First Steps". I hope these comments were useful.

You wrote to Enfield and Waltham Forest on 8th July 2016 about waste facilities in these areas and provided the information set out in the table below.

Site Name	Operator	Postcode	Facility Type	Tonnes Managed 2014	Waste Type
Edmonton EcoPark	London Waste Ltd	N18 3AG	EfW	14,070	MSW
Bywaters Resource Transfer Station and Leyton Reuse and Recycling Centre	Bywaters (1986) Limited	E10 5BY	Transfer	18,095	MSW/C&I

Your letter asked a number of questions about these facilities and I have provided answers to these below.

1. State if you know of any reason why the information contained in the attached table may not be correct. If you do please explain why.

We cannot verify the data for waste going into Edmonton EcoPark as EfW facilities are not included in the WDI.

We have the same data for Bywaters from the WDI 2014.

2. As the latest data relates to 2014 please confirm that the facilities listed are still operational. If not, please provide information on when and why the site ceased to operate and if there are any reasons why operations might not recommence in future.

Edmonton EcoPark

The existing Edmonton facility is likely to be replaced with a new Energy Recovery Facility (ERF) in 2025. The North London Waste Authority (NLWA) is pursuing a Development Consent Order (DCO) for a new ERF with capacity of around 700,000 tonnes per annum to deal with all the residual waste under the control of the Authority from 2025 until at least 2050.

Bywaters

This site falls within the boundary of the Northern Olympic Fringe AAP and has been identified as a location suitable for redevelopment. This site is currently subject of an outline planning application for mixed use development which will be considered by Waltham Forest’s Planning Committee in August 2016. The proposal includes re-provision of the existing capacity at the operator’s sister site in Newham. This re-provision will need to be agreed as part of the decision on this proposal. Should planning permission be granted, this site will be removed from the schedule of existing safeguarded sites.

3. If they are still operational or have been replaced by similar facilities, in terms of management capacity, are there any planning reasons you are aware of that might mean the acceptance of wastes cannot continue, such as consent end dates? If so can you please specify these for each receiving facility identified.

Bywaters

Should planning permission be granted, this site will be removed from the schedule of existing safeguarded sites. We do not currently have a timeframe for the ceasing of operations, but will pass on any information we receive on this matter.

Edmonton EcoPark

There are no planning reasons why movements of waste cannot continue to this facility.

4. Do you have any specific policies about providing for waste from outside your Plan area (and specifically from London) and if so what are these.

No.

5. Do you have any other comments regarding cross boundary movements of waste with Tower Hamlets?

Tower Hamlets currently receives small amounts of hazardous waste from North London annually and also recently some LACW/C&I. The following two tables are taken from the WDI and HWDI and show tonnes of waste exported from North London to Tower Hamlets:

Site	Facility	Waste	2011	2012	2013	2014
Towcester Road	Transfer	Hazardous	151	161	151	116
Gillender Street	Transfer	Hhold/Ind/Com	0	237	0	0
Northumberland Wharf Transfer Station	Transfer	Hhold/Ind/Com	0	1,431	0	0

Source: Waste Data Interrogator 2011-2014 waste ‘received’ filter

Class of waste	Type of facility	2011	2012	2013	2014
C&D Waste and Asbestos	Transfer (D)	48	61	60	72
Solvents	Transfer (R)	3	1	0	0
Municipal and Similar Commercial Wastes	Transfer (R)	1	1	0	0

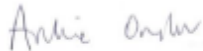
Source: Hazardous Waste Data Interrogator 2011-2014

I would be grateful if you could confirm whether or not you consider these quantities of waste to be 'significant' and if there are any reasons why these movements of waste cannot continue during the NLWP plan period to 2032.

I suggest that the North London Boroughs agree a formal statement with Tower Hamlets in time for the NLWP submission about existing movements of waste, whether they can continue and how both authorities will monitor the situation in future. We are developing a template for this and can send you a draft for your comment once we have heard from you. The timetable of the NLWP is that we hope to consult on the proposed submission version of the plan in early 2017 with submission in summer 2017.

I look forward to hearing from you.

Yours sincerely



Archie Onslow
Programme Manager



**London Borough of Tower Hamlets:
Waste Management Strategy**

Report for Workstream 5

**Review of Options For Efficiently Managing Waste
Collection In High Density Development**

BPP Consulting LLP working with re-consult



Issued: 28 October 2016

Version: Final Client sign off v1.2

Title:	Report for Workstream 5 Review of Options For Efficiently Managing Waste Collection In High Density Development
Status:	Final Version Post Client Review
For Attn of:	Sophie Hall-Thompson Planning Officer

	Name	Signature	Date
Lead Author	Rachel Espinosa re-consult		28.10.16
Reviewer	Alan Potter, Partner, BPP Consulting		28.10.16

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Executive Summary

This report reviews systems currently available and in some cases commonly used in the UK to manage dry mixed recyclables, food waste and residual waste arising from high-density residential developments. This research is in response to Tower Hamlets' commission to find new and innovative ways of managing household waste produced by residents in high-density developments. The challenges posed by a densely populated urban environment and the desire to reduce the burden on already pressured waste management services structured the research around systems that might meet Tower Hamlets' priorities.

13 companies were approached to provide information regarding their products, of which 10 companies responded. The respondents provided differing levels of detail regarding their waste collection systems.

Collection systems were grouped into four main types based on methods of operation and to allow the findings to be more easily presented. The four groupings are:

1. Underground container collection systems
2. Underground vacuum collection systems
3. On-site compaction and container systems
4. On-site materials processing systems

The scope of the review had regard to Tower Hamlets' overall objectives for delivering waste services in high-density developments, namely to:

- minimise transport movements from waste collection operations
- minimise the financial and operational burden on existing waste collection system
- maximise efficient use of collection resources
- encourage recycling behaviour by residents and reduce contamination of recyclables collected
- make a positive impact on the quality of the streetscene

With the exception of systems designed for food waste only, all systems claim to be capable of managing the three streams of waste required i.e. residual waste, dry mixed recycling, food waste. Additional input for managing food waste is recommended by manufacturers of containerised systems, where smaller containers are recommended (due to weight of food waste) and regular cleaning to keep odours and residues to a minimum.

None of the systems reviewed eliminate the need for transport movements completely. However by bulking waste and compaction, there is potential to reduce the frequency of collections needed and the impact of vehicle movements in and around residential developments significantly. Vacuum collection systems that have their bulk containers located in more remote terminal buildings on the edges of developments, have the greatest potential to reduce the impact of vehicle movements within developments themselves.

All of the systems reviewed require land to be set aside to store collected waste materials. The size and footprint of the storage space varies from system to system. While it is possible to integrate vacuum collection stations and underground containers into the design of new developments, retrofitting these systems can be costly and complex e.g where existing underground services need to be avoided. To plan for sufficient waste storage capacity to be provided in new developments from the outset, guarding against capacity shortfalls or inadequate service levels in the future requires contingency planning.

Enhanced on-site technical and operational supervision is required to operate compaction container systems and micro-anaerobic digestion system for processing food waste. This adds an additional element of complexity and operational cost, not present with underground container systems.

Managing food waste poses particular challenges, except the vacuum system, which was originally developed by one manufacturer to deal with food waste from commercial establishments. On-site processing of food waste is at a very early stage and systems require significant technical input to make effective use of the outputs generated. In-sink food waste disposal units offer an interesting alternative for managing food waste arising within residential units. Trials being undertaken in Shropshire recommend co-operation with water treatment companies before implementation to ensure there is capacity to manage additional material disposed to sewer.

Decisions on preferred system will inevitably need to be made on a case by case basis as and when development proposals come forward. From an operational perspective, it would seem sensible in the first instance, to recommend a system that dovetails with Tower Hamlets' existing waste service on estates i.e. the underground container system, possibly expanded to collect all target materials. Extending an existing novel service involving new vehicles and methods of working should provide greater scope to identify economies of scale by maximising the use of specialist equipment and exploiting efficiencies within the existing service. While the Council's experience of operating this system so far has not be totally positive due to operational issues such as the amount of space and clearance required to lift and service the underground containers, these would need to be overcome for the benefits of adoption of any system involving deployment of more specialised loading equipment to be realised fully.

1 INTRODUCTION

The project brief was to research innovative methods for managing waste and recycle from high density residential development that would reduce the overall burden imposed on the waste collection service provided by London Borough of Tower Hamlets as Waste Collection Authority for the Borough.

The aim of this review is to identify and evaluate methods of waste collection that would be suitable for consideration in high-density developments and which Tower Hamlets might refer developers to consider in the design stages of projects.

1.1 Context

Tower Hamlets is experiencing intensification of land uses alongside increased residential densities and rising population. Tower Hamlets is increasingly receiving requests to consider planning applications from developers for high-density residential and mixed use developments in close proximity to each other. Traditional kerbside methods of waste collection are impractical in high-density developments, principally due to the time that it would take for a service to collect door-to-door within buildings and to then manually transport collected waste down to the collection vehicle. Hence high-density residential development tend to have shared storage arrangements from which collection can take place.

1.2 Scope

This report identifies systems available on the market today for the containment, storage, collection and in some cases on-site management of materials arising within the household waste stream. The scope of the analysis took into consideration Tower Hamlets' overall objectives to:

1. minimise transport movements from waste collection operations;
2. minimise the financial and operational burden on the existing waste collection system;
3. maximise efficient use of existing collection resources;
4. encourage recycling behaviour by residents and reduce contamination of recyclables collected; and
5. make a positive impact on the quality of the streetscene

These objectives were translated into the following assessment criteria

Objective	Criteria	Clarification
Minimise transport movements from waste collection operations	Reduced vehicle movements as compared with current baseline	
Minimise the burden on existing waste collection system	Minimise time taken to undertake collections	
	Minimise growth in collection rounds	

	Operational considerations/convenience	
Maximise efficient use of collection resources	Indicative Capital Costs	Specialist infrastructure supply and installation /equipment to service required?
	Indicative Running Costs	Energy costs, specialist equipment hire costs e.g. vehicle
Encourage recycling behaviour by residents and reduce contamination of recyclables collected	Potential to promote recycling:	
	Accessibility for residents/ User experience	24 hour access, controlled access capability
	Resident input	Reliance on resident behaviour
Improve the quality of the streetscene	Integration in new developments	
	Location and siting issues	Limitations on service vehicle access needs / vehicle turning circles
	Landtake	Space requirement/ footprint. This is of particular importance to Tower Hamlets where land prices are high and the competition for space is intense.
Future-proofing:-	Flexibility	Can accommodate variation in waste arisings; and change in material separation needs within initial design limit.
	Scaleability	Ability to accommodate substantial growth in waste arisings and or additional materials beyond initial design limit.

A preliminary assessment of each system's pros and cons and factors critical to successful implementation, particularly with regard to operational considerations, has been undertaken. The research has paid particular regard to the impending Waste Framework Directive legal requirement for separate collection of target materials and how this might be facilitated, so identifies systems based on a three-stream collection of: general waste, dry mixed recycling and food waste.

The systems reviewed will not necessarily dovetail with Tower Hamlets' existing services, as some require specialist vehicles and collection infrastructure to be deployed. They may also present other challenges to implementation such as requiring sub-surface storage, which may be limited by proximity to underground services (and groundwater conditions).

These constraints are considered in our key findings presented in Section 2.

1.3 Our Approach

Centralised collection systems were selected for review based on experience gained elsewhere in Europe and other developed countries. A literature review of previous work in this area and supplemented this with desk-based research of case studies and company technical data, to assist with the selection of systems.

The systems reviewed were grouped into the following 4 types, based on the principal characteristics as follows:

1. Underground container storage and collection
2. Underground vacuum collection
3. On-site compaction and collection
4. On-site materials processing systems

Underground container and underground vacuum systems (type 1&2) are in widespread use across Europe in new and retrofit situations and more recently in the Middle East. On-site compaction systems (type 3) reduce volume and hence transport costs and are commonly used for office blocks, which pose similar challenges to high density residential for collection. On-site materials processing systems (type 4) have the potential to reduce transport costs and onward management costs (due to real reduction in tonnage requiring management) and have seen recent innovations in particular for food waste processing. In addition to the four types of system above, other methods for managing food waste through in-sink food waste macerator units were reviewed. The full methodology is set out in Appendix 1 and case studies are provided in Appendix 6.

Section 2 sets out the key findings grouped by collection system type. For each system an overview of the system, its positive and negative attributes, operational considerations and indicative costs have been set out. In the description of positive attributes, the benefits of each reviewed system as compared with the methods that developers generally propose to Tower Hamlets i.e. the provision of a range of 1100 litre communal eurobins for different materials, situated in basements with manual delivery. Financial information presented has been provided by the suppliers surveyed and in most cases should be regarded only as rough estimates or 'ballpark' figures. Suppliers of underground container and vacuum systems were particularly keen to point out that construction and installation costs are determined by the individual characteristics of each development and therefore figures quoted should be regarded with particular caution.

Section 3 presents a summary of the considerations for Tower Hamlets to assist in the selection of systems that might be preferred in different settings and hence might be proposed to developers to consider at the pre-application and planning application stages as part of guidance supporting the Local Plan.

1.4 Tower Hamlets Household Waste & Recycling Collection Service

This section sets out the baseline arrangements for refuse and recycling collections provided by Tower Hamlets to all properties in the Borough. These have been designed to meet the needs of residents living in both street level / kerbside and flatted properties.

1.4.1 Baseline Service Provision

The Council provides a weekly collection of refuse and recyclables to residents across the Borough. Where collections for dry recyclables, food waste and garden waste are carried out, they are offered on a weekly basis, with service delivery methods varying according to property type. Food waste is offered to 30,000 households in the Borough, which includes all flatted properties managed by housing associations, Poplar Harca and Tower Hamlets Community Housing. Garden waste collections are offered to all street level properties. Kerbside properties, such as individual houses, are offered a collection of materials from the front of their property, whereas different arrangements are made for flats according to the property characteristics. Properties in estates operated by Poplar Harca and Tower Hamlets Community Housing have the underground refuse system (URS) combined with surface level (purple) eurobins for dry recyclables and (black) communal food waste bins. In some blocks, collections of food waste are made from front doors on each floor, known as the 'doorstep' or DS service. Where collections are made on busy streets and in particular from flats above shops, the Council has introduced time window collections for all refuse and recycling services.

The following table sets out the collection container and vehicle systems in use by Tower Hamlets for kerbside and flatted properties:

Kerbside Properties

Collection Service	Materials Accepted	Container Type(s)	Vehicle Type(s)
Residual waste (refuse)	All non-recyclable waste	No container provided, residents purchase own black sacks & containers	Veolia Mercedes RCV fleet
Dry Recyclables	Glass bottles & jars, food & drink cans, plastic containers, mixed card, missed paper, food & drink cartons, aerosols, telephone directories	Pink sacks & purple wheeled bins	Veolia Mercedes RCV fleet
Food Waste	Raw & cooked food waste including bread & pastries, fruit & vegetables, meat & bones, tea & coffee grounds, plate scrapings, dairy, fish	Compost liners, kitchen caddies, brown caddies	Veolia Mercedes RCV fleet
Garden Waste	Bark, grass, weeds, leaves, hedge clippings, logs, dead plants & flowers, small branches	Green reusable bags	Veolia Mercedes RCV fleet

Flatted Properties

Collection Service	Materials Accepted	Container Type(s)	Vehicle Type(s)
Residual waste (refuse)	All non-recyclable waste	Plastic Omnium / Sulo underground refuse containers (URS) for estates	Dennis Eagle RCV with Hiab Crane for URS / Veolia RCV fleet
Dry Recyclables	Glass bottles & jars, food & drink cans, plastic containers, mixed card, missed paper, food & drink cartons, aerosols, telephone directories	Purple communal eurobins	Veolia Mercedes RCV fleet
Food Waste (where offered)	Raw & cooked food waste including bread & pastries, fruit & vegetables, meat & bones, tea & coffee grounds, plate scrapings, dairy, fish	Compost liners, kitchen caddies, brown caddies	Veolia Mercedes RCV fleet
Garden Waste	n/a	n/a	n/a

The majority of collections rely on standard 24 tonne refuse collection vehicles (Mercedes or Dennis Eagle RCV), however the fleet caters for smaller streets and other operational needs, including two smaller 14 tonne recycling collection vehicles, one 7.5 tonne refuse collection vehicle, four 7.5 tonne caged vehicles and two roll on roll off container vehicles. In considering the most suitable systems for high-density developments going forward it would be appropriate to review the existing vehicle fleet to identify opportunities that makes use of existing infrastructure where under-utilised and not due for replacement.

2 KEY FINDINGS

2.1 Underground Container Collection Systems

2.1.1 System overview

Underground container systems are already in use in Tower Hamlets and represent a proven solution for waste collection in high-density developments. These systems principally consist of two key parts:

- a large steel container, lined with rubber to prevent noise and escape of unpleasant odours, set into a concrete lined hole in the ground; above which is
- a set of inlet receptors to allow residents to deposit bagged waste materials.

The design of the inlet receptors can vary greatly and can be adjusted to suit the specific design requirements of the development or streetscape.

Image 1: Example Underground Container Inlet Receptor, (*Contenur Spain*).



Image 2: Collection and Emptying of Waste from an Underground Container, (*Peterborough*).

A safety platform is raised automatically on the bin being lifted. Note that with the SULO Iceberg system, the bin container, combined with platform / pavement section and the input bin are all lifted.

The underground container is most economically and efficiently installed in conjunction with the build of a new development, although it is also possible to retrofit these systems where there are no issues with the presence of underground services to impede installation.

Manufacturers advise that different sized containers can be installed based on waste storage capacity required and material type. The typical container size is 5m³, although for food waste and for separate collections of glass, a maximum of 3m³ is advised due to the density and weight of the material and the implications of this for lifting containers safely out of the ground. For a 25 unit residential development, Plastic Omnium advise that 2 x 5m³ containers would be needed for residual waste and dry mixed recycling, combined with 1 x 3m³ unit for food waste. Their literature claims that up to 3 containers can be installed on the footprint of 1 car parking space, i.e. in a space approximately 4.8m long by 2.4 m wide. In terms of volume capacity, a 5m³ container can hold the equivalent of 5 eurobins, or 5500 litres.

This system requires a specialist collection vehicle fitted with a hiab crane, to lift out the submerged containers for emptying unless it is designed around a hydraulic platform.

Hastings Borough Council installed a couple of underground bins in the town centre for recyclables. The system is a hydraulic raise version of the SULO Iceberg system. This makes use of the platform and surface input bin, but instead of a crane lift bin, a standard eurobin of 1100 litres is mounted on a hydraulically operated platform allowing conventional collection in a RCV. This offers the advantage of being out of sight, reducing impact on streetscene, and can be emptied by a conventional vehicle. However there is a significant reduction in storage volume from insitu container (3,000 – 5000 litres) to standard eurobins (1,100 litres) and there is the added expense and operational complexity of a hydraulic platform.

Image 3: Hydraulic Raised Underground Containers, (Hastings Borough Council)



2.1.2 Relative attributes

The assessment is based on information received from:

- Contenur UK Ltd
- Plastic Omnium Group / Sulo

2.1.3 Benefits:-

Reduced vehicle movements: the container system reduces the need for vehicle movements within a development by allowing more waste to be stored in the centralised underground containers. Using the standard container size of 5m³, Plastic Omnium advises that 80 containers collected twice a week will serve a population of 10,000 residents.

Reduced service delivery: the system eliminates the need for a refuse collection from each building.

Reduced resourcing: collections can be carried out using one operative who both drives and operates the collection system, minimising operational costs.

Flexibility: the system is flexible to the extent that:

- if waste production increases the containers can be emptied more frequently to deal with larger volumes.
- The system is suitable for various waste streams including dry mixed recycling and food waste (subject to weight limit).
- The inlet receptors can be located outside buildings, in front courtyards allowing residents to deposit waste conveniently when they leave their block.
- The design of the inlet receptors can be tailored to suit the architectural design of the development.
- Access to the waste receptor apertures or slots can be restricted for use by residents only through 'fobs' operated by a sensor. This has the added benefit of providing data to the Council about container use by individual residents.
- Containers can be fitted with sensors to measure their fill level. The information can be electronically sent to operational teams to allow collection schedules to be tailored and collection vehicles deployed efficiently.
- For food waste, odour proof apertures can be fitted to prevent nuisance, although regular cleaning is recommended. An advantage of the system is that underground bins will be kept at a lower temperature than surface bins in the summer. This may therefore help to reduce the level of degradation compared with surface bins.

Potential to promote recycling: manufacturers advise that good design and a location close to the front of a building has the added benefit of promoting better recycling behaviour by residents and less littering and anti-social behaviour associated with traditional bin stores. In summary, the closer to the front door, the containers / apertures are, the higher the chance of materials being separated and correctly deposited into recycling containers.

Accessibility for residents/user experience: the system can be accessed 24 hours a day, 7 days a week, making it highly convenient for residents to use.

Integration in new developments: from a project management point of view, integrating the installation of the container cavities is easily co-ordinated as part of the construction of new developments.

Landtake: surface space requirement is minimised, when compared to the equivalent amount of space needed to store the same volume using eurobins.

Maintenance: In principle, the underground systems are low maintenance but they will undoubtedly require some form over their lives. Potential maintenance includes:

- Maintenance of the hydraulic safety platform – hinges etc.
- Maintenance of the input bin, possibly including selective entry security system
- General cleaning and tidying
- Possible repair or maintenance to the collection vessel.
- Cleaning and washing of the concrete bunker. In theory the systems are designed in a way, which prevents the entry of liquids and solids into the concrete bunker, but over time, this may happen.

The manufacturers consulted provide a standard maintenance contract service, which includes an annual inspection, service of serviceable parts, and replacement of parts requiring routine replacement. This maintenance service is advised to maximise lifetimes of the units and reliability of the mechanisms. One supplier has indicated the potential to cap maintenance requirements under contract. If routine maintenance and replacement parts were required beyond a certain point, these would be provided free of charge. This would exclude external damage (vehicles running into the collection receptacles is the most common problem).

2.1.4 Possible issues:-

Scaleability: is restricted to increasing the frequency of collections. It is likely to be difficult and expensive to retrofit more containers if waste volumes grow.

- In connection with this, the ability to include additional materials separation is also limited by the number of containers installed initially. Therefore careful planning and consideration of future waste segregation needs should be carried out prior to deciding on the number of containers to install from the outset.
- Suppliers recommend building in more capacity and containers initially than is needed to allow for growth and expansion. Building in such spare capacity will add to the initial capital cost and there is the possibility they may not be needed (hence investment may prove to be redundant).
- Containers and inlet receptors must be carefully located to allow sufficient head height for the hiab crane plus the positioning needs to allow the vehicle to park beside the containers unhindered. They cannot be placed within buildings or under cover.

Residents' input: the system relies on residents bringing their bagged waste to the different inlets and using the correct inlets for different materials. The high reliance on resident input can lead to a risk of cross contamination of materials, which is a particular challenge to maintaining a high quality for dry mixed recyclables. Tower Hamlets' own experience with this system identifies that residents may leave bags of rubbish around the inlet receptors if the aperture 'mouth' or 'chute' is blocked. This can result in a build up of waste requiring additional management. However, it should be noted this is an issue that may occur with any system which relies on external shared inlets.

User experience:- the residents can be provided with ‘fobs’ that automatically open the apertures in the inlet receptor pipes through a sensor. The fobs can provide useful data to the Council about the user and their use of the system including frequency of use, material stream deposited etc. Using the fobs also prevents abuse of the system by other unwanted users, who will not be able to open the aperture doors without a fob.

2.1.5 Operational considerations

The key operational considerations for using underground containers are focused around:

- location and siting
- number of container installed
- residents use
- vehicle type and collection

Location and siting:- anecdotal evidence from manufacturers indicates that locating containers within the front courtyard of new developments, close to the building’s entrance, promotes pro recycling behaviour from residents and discourages anti-social behaviour and littering. Well-planned siting is crucial to allow collections to take place unimpeded. It is our understanding that Tower Hamlets follows stringent guidelines for siting underground containers, to ensure that collection vehicles can safely access them without causing obstructions or other risks to health & safety associated with lifting and emptying waste materials and ensuring there is sufficient space for vehicles to manoeuvre safely. Information for developers and landowners is contained in the Council’s document, ‘Refuse and Recycling Storage and Collection Supplementary Guidance.

Specialist vehicle implications:- underground containers require a vehicle fitted with a hiab crane to lift out the containers for emptying and a hook lift for the roll on roll off containers. These vehicles can take some months to procure and are not generally available through vehicle hire companies. While it is possible to hire hiab crane vehicles, they are not usually fitted with hook lifts for lifting containers so purchase will be necessary. As this type of vehicle is not generally suitable for any other waste collection service (with the exception of bring banks), economies of scale could only be reached if enough units were installed to justify a full round to afford employing a vehicle and driver. As Tower Hamlets has already invested in underground containers, there is a pragmatic argument for recommending this system in new developments as it will most effectively dovetail with existing high-density service provision and vehicle fleet. From an operational perspective the more containers and vehicles there are in place, the greater the capacity and ability of the service to overcome unexpected operational issues and emergencies, such as vehicle breakdowns, traffic related delays or crew illnesses.

Tower Hamlets operational experience:- the Council has identified operational issues around the underground container system, in particular that the containers are prone to damage if not replaced carefully into their apertures. Equally important is the need for sufficient vehicle space to service the containers and obstacle-free head height for operating the hiab crane arm that lifts the containers out of the ground. Tower Hamlets also advise that in their experience, 2 operatives are needed for collections as opposed to the 1 driver / operative that the system suppliers claim is required.

2.1.6 Indicative costs

Cost	Contenur	Plastic Omnium / Sulo	Sotkon
Capital	£5,500 per unit	£6,000 per unit	To come
Installation inc concrete bunker	Not provided *	Not provided*	£1,630
Operating			
Maintenance	£250 per unit per year for cleaning	£120 per unit per year	£75 -£100 per unit per year via service and maintenance contract

Vehicle cost estimated to be £50,000.

It is suggested that an installation cost of:

- *£1,000 per unit might be realistic for creation of the bunker including excavation and disposal of spoil.
- an additional cost of up to £3,500 per unit might be incurred for the incorporation of the installation into the streetscene plus electricity supply should a remote monitoring/key fob access solution be preferred.

2.2 Underground Vacuum Collection Systems

2.2.1 System overview

Underground vacuum collection systems have been in operation around the world for circa 50 years but are relatively new to the UK. Waste is conveyed through a network of underground pipes from residential blocks to a central bulking point, or 'terminal building' where the materials are bulked up into containers. A specialist vehicle collects the containers on a regular basis and delivers the material for processing/ recycling.

Residents interact with the system by 'posting' waste materials into the inlet 'receptors', similar to the underground container system, as shown in the images below. A valve located at the bottom of the inlet pipe opens and releases the materials into the underground pipe network, when the inlet pipe is almost full. The system is operated automatically through a system of sensors and valves that are linked to a computer system located in the terminal building. It also possible to

integrate the vacuum system within buildings, so that residents can place waste materials into chutes on each floor of their block for ease of use / access. The terminal itself can be located within one of the buildings within a development or separate to it.

Image 4: Envac, Wembley UK



Image 5: Metrotaifun Kivistö, Finland



The recognised market leading supplier is Envac Group Ltd who installed the first urban system in Stockholm's Sundbyberg development in 1966, which is still running today. Vacuum systems have also been in operation in the US since 1969 and the system is attracting interest elsewhere in Europe, the Middle East, China and other parts of Asia.

Integrating the terminal building within new developments is a key consideration in terms of footprint. Three fractions will require space for three roll on roll off containers, of 30m³ each, which equates to a footprint of approximately 300m². The collection vehicle would require sufficient turning circle outside the terminal building and a small office to house the computer monitoring equipment would also need to be allowed for within the terminal building.

This system type is at the forefront of innovation for waste collection. We are advised that various innovations are being tested e.g. a system using bags which are sealed with identifiable tags. The tags are coded according to the material content, allowing all bags to be deposited into one receptacle. All bags are then bulked up together in the same container at the terminal building and are transferred to a materials recovery facility for sorting.

2.2.2 Relative attributes

Two types of underground vacuum collection system were reviewed supplied by:

- Envac Group Ltd
- MariMatic Oy Metrotaifun system

respectively.

2.2.3 Benefits:-

Reduced vehicle movements: a primary benefit of the vacuum system is the opportunity it provides to reduce the number of vehicle movements within a development by eliminating the need for collection from each building. Manufacturers claim that movements are reduced by as much as 80-90% from the collection of bulk containers from the terminal building.

Scaleability: the system can be built on a small-scale or multi-building level and there is no limit to the maximum size that can be built. There are examples of systems in place that manage 900 tonnes per day. If waste volumes increase, the vacuum cycle can be adjusted to operate more frequently.

Flexibility: The system is suitable for the full range of waste streams including dry mixed recyclables and food waste.

Accessibility for residents: the inlet receptors can be located outside or inside buildings to suit the budget and design of the development, allowing residents to deposit waste within their block close to their apartments. The system can be accessed 24 hours a day, 7 days a week, making it highly convenient for residents to use.

Integration in new developments: if located outside, the design of the inlet receptors can be tailored to suit the architectural design of the development. From a project management point of view, integrating the installation of the pipe network and terminal building is easily co-ordinated as part of the construction of new developments.

Image 6: Inlet doors and basement mechanism for systems installed into buildings



2.2.4 Possible issues:-

- The system requires a power source to generate the vacuum, which will incur an operational cost plus a maintenance requirement.
- Space for the terminal building needs to be factored into the development, although it is possible to integrate it into a single location within a development if desired.
- There is potential for the underground pipe system to get blocked, although manufacturers claim that this can be resolved through deploying greater suction

and/or a moulding device situated in the inlet receptor pipe that compacts bags of waste material before they enter the pipe network.

- As with the underground system a specialist vehicle is needed, on this occasion one fitted with a hooklift, to collect the bulk containers from the terminal building, which will incur an operational cost plus, may not (at least initially) be efficiently utilised if there are an insufficient number of systems installed to deploy it fully.

2.2.5 Operational considerations

The two systems reviewed are very similar in their operation but there are some subtle technical differences, which have an impact on the operational and maintenance considerations. The key differences relate to:

- the terminal building location and size
- vacuum operation
- pipe size and material
- energy demand

From discussions with the two key manufacturers, we understand that the Envac system uses a network of pipes with a larger diameter than those used by MariMatic and that Envac transports waste through a vacuum system, which 'sucks' waste along the pipes. By contrast MariMatic uses a 'pump' system, which the company claims uses smaller pipes and less electricity. It also means that there is no need for a large air separator to be housed in the terminal building. As a result MariMatic claims that the terminal building can have a lower profile and smaller footprint. The detail of the discussions with Envac and MariMatic is contained in Appendix 4.

Other operational considerations include:

Location of inlets:- Unlike underground systems inlets are recommended to be installed within buildings, one on each floor generally works best for general waste in combination with recycling inlets located on the outside of buildings. If more than 1 stream is provided within buildings, a separator valve is required in the basement to ensure waste and recycling bags are directed into the correct pipe. The resident then selects which material stream they want to deposit and waits for the valve to connect the chute into the correct pipe within the basement area. This can cause delay to the resident deposit and at the same time 'locks' the system on other floors so that residents elsewhere in the building have to wait until the system is available again. Such delay may make the system prone to user abuse i.e. deposit of the wrong materials into the wrong chutes.

Terminal building:- a terminal building is required for each system to provide space for storing large containers which aggregate/bulk up the collected materials. The space required for this (ie 300m² for a residential block of 600 units) and its location within the development needs to be factored into the overall development design and cost. It is possible to site these underground however access for the collection vehicle must be allowed for.

Vehicle collection frequency:- frequency of collection will depend on how much waste is being produced and the size of the terminal building. It is possible to size the terminal building to house additional containers, thereby allowing waste to be stored for longer, but this will add to the footprint of the building and therefore the cost (although some economies of scale may result).

User experience:- as with underground systems, residents can be provided with ‘fobs’ that automatically open the apertures in the inlet receptor pipes through a sensor. The fobs can provide useful data to the Council about the user and their use of the system including frequency of use, material stream deposited etc. Using the fobs also prevents abuse of the system by other unwanted users, who will not be able to open the aperture doors without a fob.

Future-proofing the system:- as with underground systems this may require installing more inlet receptors than is needed at the outset, to avoid retrofitting them later on when new services for separate collections may be introduced. However due to internal installation of inlet retrofitting would be more complex, as would increasing the size of a terminal building.

2.2.6 Indicative costs

To allow comparison between the two systems, these costs are based on the estimated costs for supplying a vacuum waste and recycling collection of 3 streams: general waste; dry recycling; food waste to a block of approximately 600 residential units.

Cost	Envac	MariMatic
Capital	£109,000 for terminal building* plus £400,000 for Envac equipment within the building (underground pipework not included)	£3.5m
Installation	Not provided	Not provided
Operation and maintenance	£40-45 per apartment per year = £2,400 - £2,700 for 600 units (includes maintenance but not power)	£50 - £200,000 per year for block of 600 units (includes maintenance)

* The figure stated for the terminal building reflects a block of 655 apartments. We understand that conversations have taken place between Envac and Tower Hamlets, which indicate much higher costs. We have clarified these costs with Envac and confirm that larger terminal buildings or a network of collection stations feeding into a central terminal building would incur a higher cost in accordance with the scale of building required e.g. a collection station to collect from 9,000 apartments would cost in the region of £1.25m.

Caution should be taken when comparing the costs above particularly as Envac has had greater engagement with the authority and the MariMatic costs were ‘guesstimates’ provided through a telephone conversation with minimal knowledge of the local context.

2.3 On-Site Compaction and Collection Systems

2.3.1 System overview

On-site compaction container systems are already in widespread use in commercial office blocks and large retail establishments across the UK and could represent a proven solution for waste collection that could be translated in high-density residential developments. These systems principally involve:

- large roll on roll off containers of varying sizes for storing waste materials, combined with
- an electrically powered hydraulic ram to reduce the volume of waste inside the containers and a hopper for depositing waste materials safely into the container.

The capacity of roll on roll off containers, measured in cubic yards is generally between 20 and 40 yd³, which compares to a standard eurobin, measured in 1100 or 1280 litres in capacity per bin. By volume, a 40 cubic yard container could accommodate the contents of around 28 x 1100 litre eurobins (1 litre = 0.0013 yd³). In addition the compaction mechanism reduces the volume of waste to contain more material by volume capacity. Manufacturers advise that waste materials can be compacted by a ratio of up to 9:1.

We received differing advice on whether supervision is needed to assist residents to deposit waste materials directly into the compactors. One manufacturer stated that operatives need to have received training before operating compactors, which would limit resident use. Another option cited was to combine the system with an internal chute at ground or first floor level, whereby waste materials are posted through a flap inside the building wall, into a short chute to reach the compactor hopper.

Containers can be used to collect separate fractions of waste, allowing the system to be used for residual, dry mixed recyclables and food waste fractions. If internal chutes are used, consideration would need to be given to installing one chute per material stream, or one chute for all materials. There are pros and cons for each and manufacturers favour using one chute coupled with a 'diverter' system attached to the end of the chute, which directs materials into the correct hopper and container. Residents control the system through selecting the correct button on a panel located at the chute door.

The compaction units are sealed, which prevents odours and liquids from leaking. They can be located outside buildings or if preferred within basement areas, provided there is sufficient space allocated. A typical compactor unit and container would take up approximately 17.6m² floor area (6.4m long by 2.7m wide). Smaller units of the kind produced by British Bins (illustrated below) require considerably less space at 8m² per pod compactor system. Using this system a total of 25m²

(3x8m²) would need to be allocated if 3 fractions were to be managed using this system.

This system requires a specialist collection vehicle fitted with a hook lift, to pick up and remove the containers for emptying. Manufacturers advise that different sized containers can be installed based on waste storage capacity required, and material type and available space.

Image 7: British Bins Pod Compactor System



Image 8: Dicom Ltd Portable Compactors



2.3.2 Relative attributes

The assessment is based on information received from:

- British Bins
- Dicom Ltd

Both companies provide a wide range of compactors and containers of varying capacities, configurations and sizes. Guidance was taken from the companies as to the most appropriate equipment, based on planning for a block of 600 units.

2.3.3 Benefits:-

Reduced space requirement: a primary benefit of the compaction system is that less space will be required in and around developments by using compactors and containers, by the nature of reducing the volume of waste contained.

Reduced traffic movements: compaction containers not only reduce the volume of waste but are larger in size than traditional bins used in multi-occupancy buildings i.e. eurobins or chamberlains, meaning that more waste can be stored between

collections. This should reduce the number of collections needed per week and therefore reduce traffic movements.

Reduced resourcing: collections can be carried out using one operative who both drives and operates the collection system, minimising operational costs.

Flexibility: the system is flexible in that if waste production increases the containers can be emptied more frequently.

- As with underground and vacuum systems the system is suitable for various waste streams including dry mixed recycling and food waste.
- Access to the compactor hoppers can be restricted for use by residents only through sensors. This has the added benefit of providing data to the Council about container use by individual residents.
- Material can be deposited through chutes situated on the ground floor of buildings, to compactors located in basement areas, which prevents residents from directly accessing the compaction equipment if needed.
- In addition more containers can be sited given availability of space.

Potential to promote recycling: manufacturers advise that supervision of the compactors can lead to lower contamination and high levels of recycling, where the operative is responsible for monitoring and managing waste being placed into the correct containers.

Accessibility for residents: One manufacturer states that their system can be accessed 24 hours a day, making it highly convenient for residents to use, however in our experience of compactors elsewhere, they are exclusively operated by trained staff.

Integration in developments: from a project management point of view, planning for the space required is easily co-ordinated as part of the construction of new developments and in addition provided there is sufficient space, these systems can be retrofitted into existing developments where such a system might replace up to 24 x 1100 litre eurobins according to manufacturers literature.

2.3.4 Possible issues:-

Electricity supply: the system requires a power source for the compaction mechanism to work, which will incur an operational cost plus a maintenance requirement.

Space requirement: space for the combined containers (min 25m²) needs to be factored into developments, particularly if they are to be sited in basements, where there is demand for resident parking.

Accessibility: as with underground systems in some cases a vehicle with a hooklift is needed to collect the bulk containers from their location, for which sufficient head height and operational space needs to be planned in to allow safe access and turning circles for vehicles.

Contamination of recyclables: where there is no supervision, where residents are left to deposit materials into the correct containers themselves, or through a chute system, this could have an adverse effect on recycling by creating a higher risk of residual waste being placed into recyclables containers and the risk of losing recyclables in residual waste.

2.3.5 Operational considerations

The key operational considerations for using on-site compactors and containers are focussed around:

- Planning for future waste volumes
- Residents usage and supervision requirements
- Vehicular access

Future-proofing the system:- as advised by the manufacturers of these systems, they provide flexibility to deal with increases in waste volumes by either installing more compactors and containers or by increasing the frequency of collections. However both of these options would have operational impacts:

- increasing the frequency of collections would have a resource and cost implication
- adding further compactors and containers would take up valuable space in and around buildings, which may not be available

This risk is true to some degree for all communal collection systems.

Supervised usage:- the manufacturers reviewed differed in their advice regarding the need for supervision of the compactor equipment. In some cases, from a health and safety perspective, the hydraulic ram needs a trained operative to work it. This carries with it a resource and cost implication, plus depending on user deposit arrangement it potentially limits resident use to the operative's working hours.

Resident / user experience:- where supervision is not needed, residents are free to deposit materials 24 hours a day, 7 days a week. Whilst this is convenient for residents, there is the risk that bags of waste or recyclables placed into the wrong hopper and discharged into the wrong containers will not be visible or retrievable and could lead to contamination of recyclables and / or materials lost to the recycling stream. This risk is true to some degree for all communal collection systems.

Vehicular access:- it is operationally possible to site compactors and containers in basement areas of residential blocks, provided that the head heights and turning circles are sufficient. British Bins state that their Pod container vehicle has been designed to access small spaces. The maximum clearance height required when the container is lifted onto the back of the vehicle is 2.2m from ground level. The manufacturer claims to have compactors and containers located in basement areas in the Netherlands. Dicom Ltd stated that Banque Nacional de Paris is serviced by waste collection contractor, Paper Round, using Dicom's compaction and container system, for which Paper Round commissioned special low-level vehicles, to allow access to the bank's basement area.

2.3.6 Indicative costs

Cost	Dicom Ltd	British Bins
Capital	£10-16,000 per compactor & container unit, for 25m ³ system. Roll on roll off hooklift vehicle needed.	£9,000 per compactor, ram and hopper. £4,000 per pod (usually have 2 pods), for 27m ³ pod. £50,000 for specialist collection vehicle.
Installation	Negligible	Negligible
Operating	Electricity - negligible	Electricity - negligible
Maintenance	£400 per year servicing costs	Not provided

2.4 On-Site Materials Processing Systems – Food Waste

2.4.1 System overview

On-site materials processing systems are not commonly used in the UK but are presenting an increasingly innovative proposal with the development of new technology. The systems reviewed here are for the management of food waste only, as this is where the majority of innovation is taking place and food waste poses particular challenges to collection services within blocks of flats. The principle of these systems is two-fold:

- 1) to carry out preliminary processing of raw materials in situ, to reduce the tonnage and volume of solid waste to be managed and therefore reduce the burden on collection services; and
- 2) to make use of valuable end products such as unlocking the energy held within the waste material itself.

The equipment chosen for review focussed on technologies for micro anaerobic digestion as a technology to treat food waste and one that is currently available, which could be considered in new developments.

In our research, we attempted to review 3 systems, however information was only forthcoming from SEaB Energy for their 'Flexibuster' micro-AD plant, hence this review is limited to that product only. As illustrated below, the processing equipment is housed within a shipping container and has a footprint of around 120m².

Image 9: SEaB Energy Flexibuster Micro-AD plant



Image 10: Flexibuster & CHP unit



Based on the guideline of a residential block of 600 units, SEaB Energy estimate that their Flexibuster product would provide sufficient capacity to process the approximate 1,725kg of food waste that would arise on a daily basis. Their calculations assume that each residential unit would produce approximately 23kg of food waste per 8-day period, equivalent to 2.8kg per day.

According to SEaB Energy, there are options to site the Flexibuster within the basement of a residential development and connect users via a chute system located on the ground or first floor of the block. In contrast to this, in our research we reviewed a WRAP publication that stated the unit must be sited 1.5m away from the nearest building, (WRAP: 'On-site treatment of organic waste decision tree tool' spreadsheet).

2.4.2 Relative attributes

SEaB Energy do not currently have any micro-AD plants sited in residential blocks, hence this assessment is based on the survey discussion with the company and applying our own operational considerations and assessment.

2.4.3 Benefits:-

Reduced vehicle movements: the system reduces the need for separate collections of food waste to be carried out within a development, thereby reducing vehicle movements in the waste collection service as a whole. Also by separately managing food waste it enables consideration of less frequent collection of residual waste and if combined with a compaction system to manage residual waste and dry mixed recycling, could result in substantial reduction in vehicle movements.

Energy production: micro-AD is designed to capture the by-products of decomposing food waste. The options for managing system outputs, set out below were provided by SEaB Energy and the potential for energy production would depend on the size of system and throughput capacity required:

- the methane can be captured to produce electricity by using a generator located on site and providing local electricity - note the floorspace indicated is not including a generator and any equipment to modulate supply;

- where a generator is provided onsite the surplus heat can be captured and used locally within the building for space heating if pipework provided;
- a liquid by-product is produced which can be used as a fertiliser or further processed to neutralise it and discharged to the sewer (quantities and storage requirement unknown)
- a solid digestate waste is left behind which can be used as a soil improver or mulch in local landscaping schemes, allotments or parks. (quantities and storage requirement unknown)

Scalability: if waste production increases further containers can be sited provided that there is room to locate them.

Accessibility for residents: in the event that the system is linked to an internal chute, there is the potential for it to be accessed 24 hours a day, 7 days a week, making it highly convenient for residents to use.

Integration in developments: like a mobile compactor from a project management point of view, planning for the space required is easily co-ordinated as part of the construction of new developments.

2.4.4 Possible issues:-

Electricity supply: the system requires a power source for the AD system to work, which will incur an operational cost (unless power generated onsite) plus a maintenance requirement.

Integration of AD outputs: to gain the maximum benefit from the system, the outputs in terms of power and heat could be used within buildings, however this requires significant forward planning plus ongoing performance monitoring of the micro-AD plant.

Supervision: the system is complex and requires a trained operative on site on a daily basis to monitor the performance and safety of the system, including the generation and management of outputs.

Space requirement: space for the large shipping container(s) needs to be factored into developments. Conflicting information means that it is not clear whether the system could be sited within buildings or not.

Accessibility: a small transit van would need access to allow the system to be serviced and to remove any solid digestate waste.

Contamination of feedstock: where there is no or limited supervision to separate food waste, residents could be left to deposit materials into a hopper or 'holding chamber' which creates a high risk of contamination by other non-digestible materials.

2.4.5 Operational considerations

The key operational consideration involves the amount of manpower input needed to ensure that the system is well-managed, performing correctly and processing food waste effectively and safely. The unit requires a trained operative to have overall responsibility for the equipment, which bears a resource cost. Provided that there are sufficient resources, then this technology poses an interesting proposition for

the future management of domestic food waste. It also provides an opportunity to gain back some valuable by-products, which could potentially reduce electricity and heat demand within the development. The manufacturer states that one Flexibuster unit could produce around 330mwh of electricity and 550mwh of hot water annually.

2.4.6 Indicative costs

Cost	SEaB Energy
Capital	£275,000 per unit capable of processing between 500kg and 3000kg of food waste per day.
Installation	Not provided
Operating per annum	£19,000 per unit (includes maintenance)
Maintenance	Not provided

2.5 Food Waste Disposal Units

2.5.1 System overview

Food waste disposal units are small macerators installed under domestic kitchen sinks and are used to grind up food waste into a 'slurry', to allow it to be disposed of through the normal wastewater removal system. The macerator equipment is fitted just underneath the kitchen sink and once installed, it mechanically chops and grinds food waste using blades, to allow it to pass through standard sink waste pipes and into the sewerage system. Macerators can reduce the need for traditional bin collections, as the material is treated by water treatment companies at sewage works. Whilst the systems have been available for over 40 years the actual uptake is unknown but believed to be small in the UK to date. Recent interest has been shown in these systems and there are long-lasting examples in place e.g. the 'garchey' system installed in the Barbican residential estate in the Corporation of London. A new trial is being carried out in a residential development in Shrewsbury, Shropshire (Local Government Association: 'Food Waste Disposer Pilot') as part of research into innovative waste disposal techniques, by the LGA's Productivity Team. The trial involved a collaboration of new residential homes built by David Wilson homes and Severn Trent Water who will receive the macerated food waste.

Image 11: Insinkerator as used in the Shrewsbury residential trial (cut away view)



2.5.2 Relative attributes

A number of manufacturers produce and sell macerators, the key differences between products are the strength of the blades or macerating action and the power of the motor. This determines the suitability of the product to its anticipated use, with products available for small to large households and for commercial uses. Products from 3 manufacturers were reviewed:

- Tweeny
- Insinkerator
- Franke

2.5.3 Benefits:

The key benefit to installing food waste disposal units is reflected in cost savings to local authorities by negating the need to collect food waste from householders. The savings are significant and include costs for food waste kitchen caddies, caddy liners, containers, collection vehicles and crews, fuel and maintenance. Householders also benefit from the ease of use of the system, which eliminates the need to handle messy food waste and store it in containers awaiting collection day.

2.5.4 Possible issues:

The units have a life expectancy of between 5 to 10 years depending on the product and manufacturer and would therefore need to be replaced and a decision on who would bear that cost would need to be made. For a block of 600 units, this could equate to £227,400, i.e. £379 per unit when considering the Insinkerator Model 66.

2.5.5 Operational considerations

The systems reviewed essentially operate in similar ways with the principal operational differences being the variations in power and cutting method. As there is no collection service to consider, the key operational considerations are:

Future-proofing the system: any future legislation to introduce separate food waste collections from households or to restrict food waste disposal to sewers, would negate the savings made from food waste disposal units installed in new developments.

User experience: the system relies on residents managing their own food waste disposal and to prevent blockages within their properties. It could be necessary to provide sufficient information to residents on effective use of the units, combined with a community engagement exercise and/or a problem solving service to prevent operational issues.

Food waste in residual waste: linked to effective user experience, there is the risk that residents could continue to put food waste in residual waste bins, regardless of the installed sink units.

Disposal to wastewater treatment system: the nature of these systems results in food waste being disposed of through the wastewater treatment system, therefore close collaboration with water companies would be critical. As part of the Shrewsbury trial, much of the monitoring will involve the impact on the wastewater treatment system, which was not designed to cope with managing such waste. In response to the Shrewsbury trial, Severn Trent Water stated that they do not encourage customers to put food waste into sinks or drains. However in cases where entirely new systems are being developed and water companies are being encouraged to maximise value on sewage treatment the additional injection of feedstock through this method may not be entirely unacceptable.

2.5.6 Indicative costs

Cost	Tweeny	Insinkerator	Franke
Capital	£370.73 - £492.00 per unit	£299.00 - £379.00 per unit for models 56 and 66	£248.00 - £387.00 per unit
Installation	Not included	Included in capital cost	Not included
Operating	A family of four would pay approximately 50p per year on electricity.	Between 2-3 and 5-6kWh per year depending on unit.	Franke claim units use in 1 month, the same electricity as a 100 watt light bulb uses in 1 hour.
Maintenance	Tweeny take back and refurbish old units.	None required provided the unit is used daily. Life expectancy between 5-7 years depending on use.	Sealed unit means none should be required. Units have warranty of between 6-10 years.

3 Summary and Preliminary Conclusions

In summary, our review of alternative and innovative solutions for managing and collecting waste and recyclables from high-density developments has focussed on solutions that contrast with Tower Hamlets baseline waste collection services. The exception to this is the inclusion of underground container systems, which Tower Hamlets already utilises for refuse collection from a number of estates. We have had regard to Tower Hamlets priorities for its future waste services, to ensure we have highlighted key features of different systems to achieve those priorities. Our research has been limited to the management of three fractions of waste: refuse; dry mixed recycling; and food waste.

We have highlighted here our key conclusions to assist Tower Hamlets with recommending to developers their key considerations for the most efficient and effective waste management systems for high-density developments.

3.1 Integration with Tower Hamlets existing URS service

Tower Hamlets existing underground container service (URS) is considered to be an innovative system, although it is currently only used for refuse collection in the Borough. In view of the fact that Tower Hamlets owns two URS collection vehicles, this service could provide operational support to a service expanded to more developments and further materials segregation. For these reasons, in theory it would seem an obvious system to recommend to developers when designing and planning new developments rather than introduce another new system alongside it. Maintaining a single system would be maximise use of existing vehicles and should be less complex to manage and execute as it would dovetail more easily within the existing service delivery. It would allow the Council to expand the service to include recyclables, using a system the Council is familiar with and is experienced at operating. While, operational issues around the use of the system have been encountered, in particular that the containers may be prone to damage if not replaced carefully into their apertures and 2 operatives may be needed for collections as opposed to the 1 driver / operative that the system suppliers claim any recommendation for discontinuing or expanding this system would need to have regard to whether such operational issues would be encountered when implementing other more centralised novel collection systems identified in this report.

3.2 Minimising vehicle movements

All of the systems reviewed have the potential to reduce vehicle movements associated with the collection of waste when compared to the Council's baseline system, with limited use of the URS. Using larger containers than standard communal eurobins, means more waste can be stored before needing collection and more waste can be collected in a single round. The underground vacuum systems have

the greatest potential to reduce traffic impacts in the immediate vicinity of developments. If the central collection station or terminal building is sited on the edge of an estate, waste collection movements could be isolated to these areas only dispensing with the need for waste collection vehicle movements within the estate.

3.3 System footprint and siting

The estimated floor area each system occupies is included to assist developers in allocating space for waste management on new development. This can be factored into new high-density developments and adjusted according to the size and number of residential units being planned for. As a general rule, all of the systems using bulk containers allow waste to be stored in a smaller footprint than the using standard communal eurobins. Siting systems in basements presents some operational issues that need to be considered, principally around access for bulk collection vehicles, height clearance, turning circle, safe access and ease of use by residents depositing materials.

3.4 Cost

Capital and revenue costs are provided where possible. To do a comparison of different systems based on cost alone would require a more complex assessment to ensure that operational variations do not distort the costings. The flexibility of a system to be expanded to a neighbouring residential area or to dovetail with existing services, may provide cost savings and identify efficiencies.

3.5 Promoting good recycling behaviour and reducing contamination

Our research on this issue threw up anecdotal evidence only, but this seems to suggest that the location of containers and systems has a impact on achieving better recycling rates by residents and also reducing waste-related anti-social behaviour. Collection systems located close to building entrances can be expected to promote better behaviour from residents to those located in rear car parks or out of sight. However, the nature of bulk collection systems means that visual inspections of container contents is not as simple as it is using communal eurobins. Where the system is easy and convenient to use or has some form of supervision, manufacturers state this should lead to less contamination of recyclable materials and greater diversion of recyclables from the residual waste stream.

3.6 Flexibility to add further materials once systems are installed

By their portable nature, on-site compaction container systems appear to be the most flexible in terms of adjusting the waste collection service being offered to residents, as necessary. It is much simpler to add a further container placed on the ground in a car park or basement area than it is to retrofit expansion of the vacuum and underground container systems. The embedded systems would incur significant cost involved to dig new underground chambers or install new receptor pipes. Manufacturers of underground vacuum systems proposed options to manage this through colour-coded bags, which are separated once they have been through the system and arrived at the terminal building. This could offer an interim solution, but is open to user contamination issues.

3.7 Managing food waste

Effective collection and recycling of food waste is an issue that needs careful planning, as the nature of the material presents particular challenges, related to its' wet, dense composition and potential to cause nuisance from odour and leaks. Manufacturers of underground containers recommend using smaller containers than those for residual waste, because of the relative density of the material, which makes it heavy to lift. Manufacturers of collection compaction systems are divided in their advice about the suitability of their systems to manage this material. Underground vacuum system manufacturers have extensive experience of managing food waste and micro-anaerobic digestion units have been specifically designed to manage organic waste on site and provide outputs from the material in the form of energy and fertiliser. On that basis, these latter two systems appear to be the most appropriate systems to collect and manage food waste in a multi-occupancy situation. They might be used in combination with other systems for other materials. Separate management of food waste may allow for the frequency of residual collection to be reduced and may yield better quality of recyclates. Such systems could be used in conjunction with other options like compaction too.

Appendix 1 – Methodology

Methodology

Our methodology for workstream five incorporated the following tasks:

- Identification of the Council’s priorities to guide the research and data gathering exercise
- Review of previous work in this area e.g. London Waste and Recycling Board waste planning template work
- Research (national and international) to identify possible options for proximate and sustainable management of waste within residential estates to take into account:
 - Consideration of waste storage guidelines for residential developments to include materials recycling
 - Options to minimise the impact of waste & recycling collections on current and future collection services
 - Consideration of how bulking of materials may impact on collection and storage requirements
 - Options for the on-site treatment of specific materials e.g. food waste
 - Options to minimise vehicle movements associated with household refuse and recycling collection services
- Identification of relevant waste & recycling collection systems
- Production of template survey for data gathering purposes and collection of data from suppliers
- Review of reports, particularly in relation to food waste management
- Summary and analysis of options

The following sections provide more detail of each sub-task and key conclusions are provided in the main body of the report.

1. Identification of the Council’s priorities

Tower Hamlets’ project brief set out the priorities for this piece of work, most notably to identify ways to reconcile the increasing amount of residential and mixed developments coming forward through the Council’s planning approval process with the need to provide waste collection and recycling services within an ever-pressured financial environment.

Through our discussions with Council officers, we have identified that the key priorities to the Council from this project include:

- Identify waste management solutions suited to new high density developments that serve to reduce traffic movements associated with servicing such developments with waste and recycling collections
- Identify other potential benefits deploying innovative methods for waste management including opportunities to support its efforts to improve recycling rates and quality improvements to the streetscene environment from the reduced impact of refuse and recycling collection methods
- Provide evidence that LBTH can use to formulate policy that would steer developers bringing forward development proposals at the pre-application and planning application stage, of the Council’s preferred waste management method(s) to be deployed within new developments from the point of occupation. Evidence to

include indicative financial implications to developers and the subsequent impact for prospective residents on any service charge imposed.

The research brings together empirical and anecdotal evidence from suppliers, and manufacturers including practical examples and hence largely relies upon the reliability of this information in informing our recommendations.

2. Summary overview of Tower Hamlets existing waste and recycling collection system

We reviewed the current waste and recycling collection services provided to residents in Tower Hamlets to determine a 'baseline service' against which innovative solutions could be compared. Details of the baseline service are set out in section 1 of the main report. The current refuse collection system is dominated by standard UK methods of collection i.e. through the utilisation of a fleet of compaction refuse collection vehicles and a range of collection containers, which vary depending on the property type. With regard to flatted properties, we have taken the common UK use of 1100 litre eurobins as the baseline service, whilst recognising that Tower Hamlets also uses underground containers on estates managed by housing associations, Poplar Harca and Tower Hamlets Community Housing.

Based on the materials collected in Tower Hamlets, we have based our research and review of innovative solutions, on their ability to manage three streams of waste:

- Residual
- Dry mixed recyclables
- Food waste

Food waste is currently offered on a limited basis, however a review of the waste parts of Environmental Statements for developments undertaken as part of this project reveals a general expectation that separate food waste collections are to be introduced borough wide in 2017.

3. Review of previous work in this area

We undertook a review of other relevant reports and research of innovative collection systems in high-density and flatted properties and supplemented this with more detailed reviews of technical information provided by the companies that responded to our survey. We were also able to draw on our experience of previous work in this area for the London Waste and Recycling Board. Our review of previous work and associated literature included the following:

- London Waste and Recycling Board:- 'Waste Management Planning Advice for Flatted Properties' December 2014
- Adept:- 'Making Space for Waste, Designing Waste Management in New Developments' 2010
- London Borough of Tower Hamlets:- 'Refuse and Recycling Storage Collection Supplementary Guidance'
- Company Reviews:
 - Technical Specification Sheets
 - Company Websites
 - Case Studies

- News articles relating to the use of food waste disposal units in new residential properties
- Local Government Association:- ‘The Impact of Household Food Waste Disposers’ 2014
- Review of the Garchey System in the Barbican Residential Development, City of London.
- North West Cambridgeshire Proposed Development

4. Research (national and international) to identify possible options for proximate and sustainable management of waste within residential estates

4.1 Identification of relevant systems

We supplemented the review of previous work set out above through desk-based research to identify innovative and sustainable methods of waste collection currently in use elsewhere. We identified systems that have potential to reduce traffic movements and reduce the financial burden on Tower Hamlets existing waste and recycling collection services have been identified. Systems that are in use operation elsewhere in the UK, other parts of Europe, the US and parts of Asia have been reviewed. In some cases these systems are more prevalent outside of the UK such as underground container and vacuum collection systems and other systems such as on-site compaction systems are currently more commonly used in the UK for commercial waste applications, such as office blocks, shopping centres and hotels. However there is no operational reason why such methods could not be applied to high-density residential and mixed use developments of the kind being proposed in Tower Hamlets providing the material can be presented in an appropriate way.

The systems were categorised into the following 4 groups for review:

1. underground container collection systems
2. underground vacuum collection systems
3. on-site compaction and collection systems
4. on-site processing systems for food waste only

We also included research on under-sink food waste disposal units (macerators) was also undertaken, following on from discussions with Tower Hamlets key officers at the project initiation meeting. This was carried out through web-based research of products offered to the market for sale only and not through the template survey.

4.2 Template survey

A survey was devised comprising 14 questions with the objective of gathering supplier’s data on

- product specification including footprint and throughput capacity
- suitability to manage a range of waste streams based on three streams: residual waste, dry mixed recycling, food waste
- capital and installation costs
- operating and maintenance costs
- access and operating issues
- scalability and flexibility
- potential to encourage recycling behaviour

We also requested drawings, case studies and photographs of the system wherever possible. A sample template survey and introductory letter is included in Appendix 3.

4.3 Data gathering methodology

An initial phone call was made to each supplier to identify the correct contact within each company that could supply the technical information being sought. This was followed by an introductory email, which included the template survey and introductory letter requesting their assistance to provide data on their products. A further phone call was made to follow-up the email. Where possible interviews were carried out over the telephone and follow up calls and emails were made to address queries and request further information such as specification sheets, photos etc. Several attempts were made to get hold of suppliers and gather technical information. In all cases we supplemented the survey response information provided with information gleaned from other sources including company websites, technical specification sheets and case studies where available.

A list of the respondent suppliers by product category is set out in the table below:

Respondent	Technology
1.Underground container collection systems	
Sotkon Waste Systems	
Contenur UK Ltd	
Plastic Omnium/Sulo	
2.Underground vacuum collection systems	
MariMatic Oy	
Envac UK	
3.On-site Compactors	
British Bins	
Dicom Ltd	
Bergmann Direct Ltd	
4.On-site processing systems for food waste only	
SEaB Energy Muckbuster	Micro-AD plant
Methanogen UK Ltd	Urban micro-AD (Camley Street Kings Cross) Provide technology to LEAP
Franke UK	Food Waste Disposal (Turbo Waste Disposal Unit) (in-sink macerator)
Tweeny Food waste disposal units	Food Waste Disposal Unit (in-sink macerator)
Insinkerator (Emerson Electric Co.)	Food Waste Disposal Unit (in-sink macerator)

Appendix 2 – Suppliers Full Contact Details

Company	Website	Type of Container System	Contact	Email	Telephone
Underground container & collection systems					
Sotkon Waste Systems	www.sotkon.com	Underground / Semi-underground / Compact underground containers	marketing@sotkon.com	sotkon.uk@sotkon.com	+44 (0) 2031 375 240
Contenur UK Ltd	www.contenur.co.uk	Underground containers	07968394664 Bob James bob.james@contenur.com	marcus.machell@contenur.com	+44 1282 604400
Sulo	www.sulo.com/index.php/en	Underground containers	MERGED WITH PLASTIC OMNIUM		+49 (0)5221 598-05
Plastic Omnium	www.plasticomnium.com/en/containerization-environment.html	Underground containers	Rachel Milner-Butler / Joe Watson	rachel.milner-butler@plasticomnium.com	44 (0)121 5214474
Underground vacuum collection systems					
MariMatic Oy	www.marimatic.com www.metrotaifun.com	Underground vacuum system	didrik.tollander@marimatic.fi	info@marimatic.com	0031 6 553 26 553 (Netherlands Office)
Envac UK	www.envacuk.co.uk	Underground vacuum system	Richard Botting / Dave Buckley		44 (0)78 2438 0227
On-site compaction & collection systems					
British Bins	www.britishbins.co.uk/waste-compactors.html	Compactors	Peter Bond peter.bond@britishbins.co.uk	mailenquiry@britishbins.co.uk	020 8776 8957 / Peter ext 8911
Dicom Ltd	http://www.dicom.ltd.uk/pages/products/wa	Compactors	FAO Chris	sales@dicom	01773 520565

	stecompactors/portable/product-one.aspx		Parke	ltd.uk	
Bergmann Direct Ltd	http://www.bergmann-direct.co.uk	Compactors	Jami	Jami.gilmore@bergmann-direct.co.uk	0845 226 5803
On-site materials processing systems & end-product use (food waste)					
SEaB Energy Muckbuster	www.seabenergy.com	Micro-AD plant	Mia	miaqian@seabenergy.com	+442380111909
Burdens Environmental	http://www.burdensenvironmental.com		Will Kirkman		0845 601 1188
LEAP	http://communitybydesign.co.uk	Urban micro-AD (Camley Street Kings Cross)			
Methanogen UK Ltd	http://www.methanogen.co.uk	Provide technology to LEAP		info@methanogen.co.uk	07980 541 520
Food Waste Disposal (FWD) Units					
Franke UK	http://www.franke.com/kitchensystems/uk/en/home.html	FWD Turbo Waste Disposal Unit		info.uk@franke.com	0161 436 6280
Tweeny Food waste disposal units	http://www.tweeny.co.uk/index.htm	FWD Unit			01424 751888
Insinkerator (Emerson Electric Co.)	http://insinkerator.co.uk/webapp/wcs/stores/servlet/en/insinkeratoruk	FWD Unit			01923 297 880

Appendix 3 – Introductory Letter and Template Survey Form



London Borough of Tower Hamlets Waste and Recycling Collection System Survey April 2016

Introduction

The London Borough of Tower Hamlets (LBTH) is preparing a new Local Plan to guide development in the borough over the next 15 years. Since the adoption of the Core Strategy in 2010, a number of key policy changes, nationally and regionally have been introduced, including the National Planning Policy Framework (2012), the Localism Act (2011) and various changes to the London Plan, including new ambitious jobs and housing targets for the borough.

The London Borough of Tower Hamlets has engaged consultants to undertake work in the preparation of the new Local Plan. The borough is facing unprecedented growth with the majority of development involving high-rise buildings. This has a significant impact on the collection of waste and recyclable materials from those households. The Council is seeking information regarding the options available for efficiently managing waste collection in high-density development.

The following survey has been devised to gather relevant and comprehensive information for the Council. It will be used to assist in the evaluation of practical solutions for waste management and in particular to assist with decision-making with regard to options for waste and recycling collection in new developments at the planning and pre-application stages.

If you need assistance completing the survey, please contact Rachel Espinosa on 07780 332271. Please return your completed survey to rachel@re-consult.org.uk

Thank you in advance for your co-operation.

Waste and Recycling Collection System Survey

Q1a-c	What is the required footprint of the unit per kg of a) waste b) dry mixed recycling c) food waste collected? (Assume a weekly collection frequency)
Q2	Can your company supply template layouts / drawings for your particular collection system?
Q3	On what basis does your company estimate the number of residential units serviced per collection unit? (Assume a weekly collection frequency)
Q4	Is your company's collection unit technically suitable for collecting a range of materials - general waste / dry recycling / food waste?
Q5	What are the estimated capital and installation costs per collection unit?
Q6	Does your company have any estimated operating costs including maintenance?
Q7	What access or other logistical arrangements are required to service the units?
Q8	Are case studies available show-casing the units in situ in high-density housing / other residential examples?
Q9	Do you have evidence of the performance of your system to encourage recycling behaviour?
Q10	Have any refinements been taken place to improve the efficiency or performance of the system?
Q11	Do you have images available to assess the impact on the streetscene if applicable?
Q12	What is the scalability of the system i.e. to respond to improvements in recycling performance / reduction in residual waste units?
Q13	What is the flexibility of the system to respond to service level changes e.g. additional separation of materials?
Q14	In your experience is your system deliverable from a planning perspective?

Appendix 4 – Supplier Completed Survey Forms

See separate Appendix 4 document

Appendix 5 – Case Studies & Further Information Provided

The table below sets out a list and link, where possible to case studies of the companies and the products we reviewed. Where companies did not provide a case study, we have provided a link to further technical information about their system.

Company	Further Information	Type of Information
Underground Containers		
Contenur UK Ltd	http://www.contenur.com/wp-content/uploads/2015/04/CONTENUR-UndergroundContainer-SideLoadingSystemSCV-Eng.pdf Crane Lift 5m Technical Drawing Crane Lift Underground Refuse System Specification Sheet Lambeth Image / 2 x France Images	Technical Specification Sheets Images
Plastic Omnium	www.plasticomnium.com/en/containerization-environment.html	Underground containers
Underground Vacuum System		
MariMatic Oy	http://www.metrotaifun.com/automatic_solid_waste_collection_system/index.php/en/references/selected-references	Case studies
Envac UK	http://www.envacuk.co.uk/case-studies	Case studies
Compactor Container System		
British Bins	www.britishbins.co.uk/waste-compactors.html Pod Compactor System 700 - Specification Sheet Dedicated Pod Compactor Vehicle – Specification Sheet	Technical Specification Sheets
Dicom Ltd	http://www.dicom.ltd.uk/pages/products/wastecompactors/portable/product-one.aspx Portable Compactor Brochure CE3230 Portable Waste Compactor drawings CE15 Portable Waste Compactor drawings Waste Vehicle Height Dimensions Terms & Conditions	Technical Specification Sheets
On-site Processing System		
SEaB Energy	SEaB Energy Fact Sheet & Case Study SEaB Energy Flexibuster Specification SEaB Energy Company Overview	Case study Technical Specification Sheets
Food Waste Disposal System (Macerators)		
Franke UK	http://www.franke.com/kitchensystems/uk/en/home.html	Website
Tweeny Food waste disposal units	http://www.tweeny.co.uk/index.htm	Website
Insinkerator (Emerson Electric Co.)	http://insinkerator.co.uk/webapp/wcs/stores/servlet/en/insinkeratoruk	Website

Appendix WS3 – Site Assessment Proformas

Site 001: Clifford House, Towcester Road

Table 1: Basic Site Information – Site 001

Basic Information	
Site ID	001
Name of Site	Clifford House, Towcester Road
Site Owner/Occupier (if known)	Clifford Devlin Ltd
Date of Visit	15/07/2016
Time of Visit	PM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Photo 1: Access road looking east from public highway



Photo 2: Access to unit

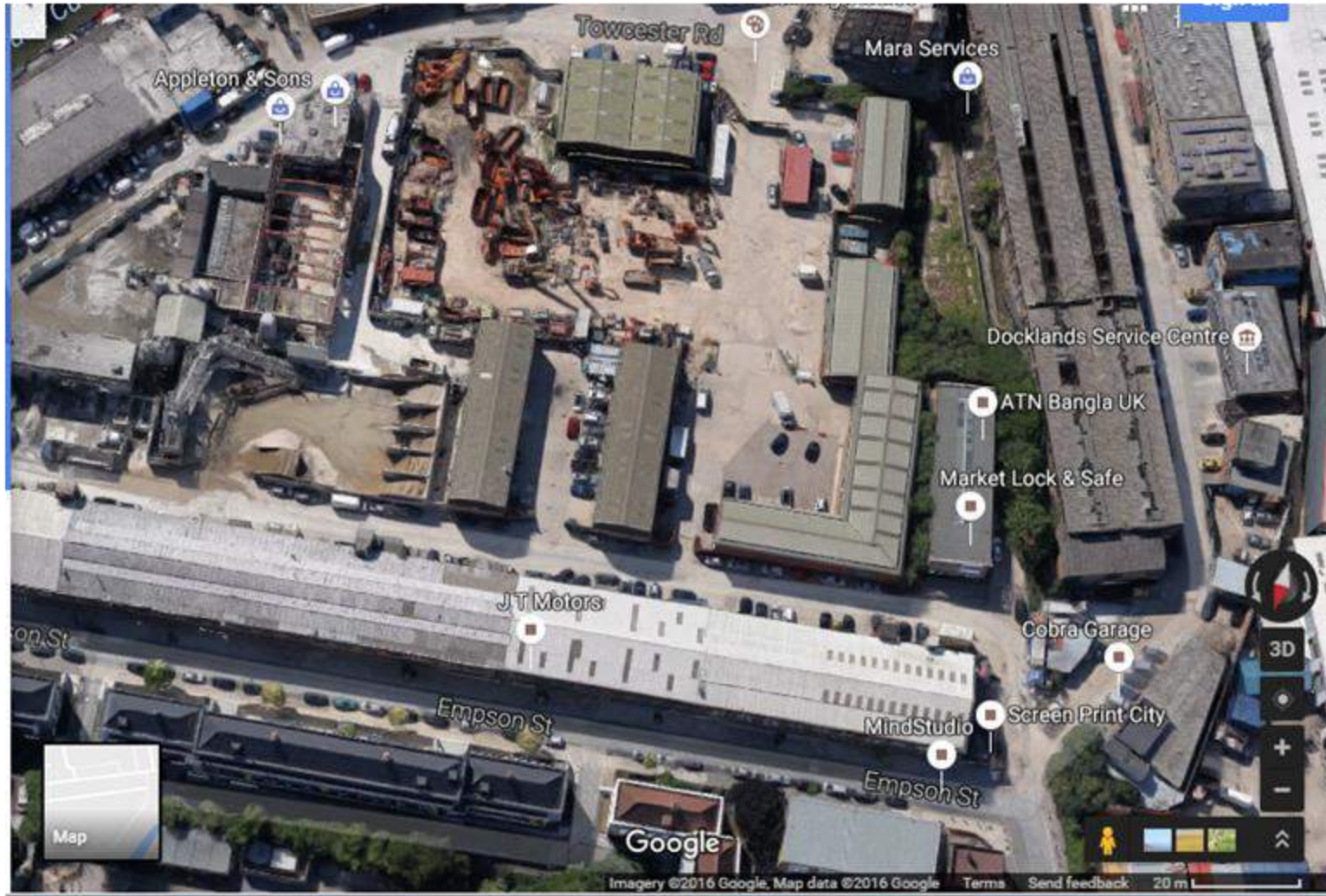


Photo 3: Showing site context

Table 2: Detailed Assessment – Site 001

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	High	The site has buildings on site which are used for an existing waste operation. As such, the buildings are considered suitable for waste management.
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	The site is a contractor’s yard with existing waste management activities and it is therefore considered that no major changes are required to accommodate a waste management facility.
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	High	The site does not contain any land which is at risk of surface water flooding.
	Moderate – Potential drainage issues		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
	affecting part of the site		
	Low – Potential drainage issues affecting whole of site		
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zone 1.
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low – Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site is already served by the national grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site is already served by an existing water supply.

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
	Low – Site not already served by existing water supply		
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)			
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	High	The site is located approximately 50m to the south of a number of residential apartment blocks. However, the site is already partly used as a waste management facility and, therefore, it is considered that continued use of the site for a waste management facility is acceptable.
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	High	The site does not contain nor is it immediately adjacent to any walking routes (i.e. Green Grid walking routes, LBTH walking routes or Primary walking routes).
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral	High – Existing facility with potential to modify/intensify operations within	High	The site is partly used as an existing waste facility and has the potential to modify/ intensify operations

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
sites)	boundaries		within its boundaries.
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which there could be a synergy (potential for co-location)		The site is also within close proximity to the Mix It concrete plant. As such, synergies could be developed between the facilities/ sites.
	Low – No existing facilities in vicinity		
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	Low	The site is not within close proximity to a wharf, railhead or canal.
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road	Moderate	The site does not have direct access on to the primary

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
	network, or short distance through compatible uses (e.g. industrial estate)		road network. Vehicles must travel a short distance along the B140 before joining the A12.
	Moderate – Short distance through B roads or incompatible uses (residential/local roads)		
	Low – Long distance through incompatible uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	High	At the time of the site survey there was light traffic on the road network.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	High	The site has suitable access onto the road network which is currently used by the vehicles of the existing facility.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	High	The site does not contain nor is it adjacent to any nature conservation designations. It also does not appear to contain any undesignated nature conservation interests.
	Moderate – Presence of nature conservation interest on adjacent site		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		
Built Environment, Heritage and Landscape			
Visual intrusion – sensitivity of receptors viewing waste development	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)	High	The site is within an existing industrial estate and is well screened from residential properties to the north of the site.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Moderate	The site is adjacent to the Limehouse Cut Conservation Area.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		

Site 002: Northumberland Wharf, Yabsley Street

Table 3: Basic Site Information – Site 002

Basic Information	
Site ID	002
Name of Site	Northumberland Wharf, Yabsley Street
Site Owner/Occupier (if known)	London Borough of Tower Hamlets. Occupied by Veolia (HWRC) and Cory (WTS Wharf)
Date of Visit	15/07/2016
Time of Visit	PM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Photo 1: Showing Access to HWRC



Photo 2: Showing access to WTS & Wharf

Table 4: Detailed Assessment – Site 002

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	High	The site contains a number of buildings which are currently used as part of the existing waste management facilities. As such, it is considered that the buildings are suitable for waste management use.
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	The site is currently used by two waste management facilities. As such, it is considered that no major changes are required to accommodate waste management uses onsite.
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	Moderate	The site contains small areas which are at risk from surface water flooding.
	Moderate – Potential drainage issues		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
	affecting part of the site		
	Low – Potential drainage issues affecting whole of site		
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zones 2 and 3. However, the Thames Tidal Defence system, including the Thames Barrier and Thames River Walls provide the site with a significant standard of protection against tidal flooding, up to the 1 in 1000 year event. In the defended scenario the site is not considered to be at risk from flooding, as set out in the Level 1 SFRA (2016).
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low – Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site is already served by the national grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site is already served by an existing water supply.

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
	Low – Site not already served by existing water supply		
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)			
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	High	The site is located within close proximity to a number of old and new-build residential properties. However, the site is already in use for waste management. It is therefore considered that the impact on the amenity of these receptors would be acceptable.
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	High	The site does not contain nor is it immediately adjacent to any walking routes (i.e. Green Grid walking routes, LBTH walking routes or Primary walking routes).
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral	High – Existing facility with potential to modify/intensify operations within	High	The site contains two existing waste management facilities and has the potential to modify/ intensify

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
sites)	boundaries		operations within its boundaries.
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which there could be a synergy (potential for co-location)		
	Low – No existing facilities in vicinity		
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	High	The site has direct access onto an operational wharf used for waste.
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road	Moderate	The site is located within close proximity to the

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
	network, or short distance through compatible uses (e.g. industrial estate)		A1206. Vehicles have to travel a small distance along Yabsley Street and adjacent to residential properties to access the A1206.
	Moderate – Short distance through B roads or incompatible uses (residential/local roads)		
	Low – Long distance through incompatible uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	High	At the time of the site survey there was light traffic on the road network.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	High	The site has suitable access direct onto the road network.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	Low	The site is located in part of the River Thames and Tidal Tributaries SINC.
	Moderate – Presence of nature conservation interest on adjacent site		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Suitability Assessment	Justification for Judgement
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		
Built Environment, Heritage and Landscape			
Visual intrusion – sensitivity of receptors viewing waste development	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)	High	The site contains two existing waste management facilities and residential properties, new and old, surround the site. Therefore, as the site is already in operation as waste management facilities their visual impact is already experienced, and has the potential to be improved if the site were redeveloped for a new waste facility.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Low	The site is located within an Archaeological Priority Area and adjacent to the Coldharbour Conservation Area.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		

Site 004: J B Riney & Co Ltd, 455 Wick Lane

Table 5: Basic Site Information – Site 004

Basic Information	
Site ID	004
Name of Site	455 Wick Lane
Site Owner/Occupier (if known)	J B Riney & Co Ltd
Date of Visit	15/07/2016
Time of Visit	AM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Photo 3: Showing Access & egress of site

Table 6: Detailed Assessment – Site 004

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	High	The site contains a number of buildings including large buildings suitable for handling waste. Furthermore, the site is currently partly in use as a waste management facility (although it is an ancillary operation). As such, it is considered that the buildings/site are suitable for waste management purposes.
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	The site is currently partly in use as a waste management facility (although it is an ancillary operation). As such, it is considered that no major changes are required to accommodate waste management uses onsite.
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	Moderate	The site contains small areas which are at risk from surface water flooding.
	Moderate – Potential drainage issues affecting part of the site		
	Low – Potential drainage issues affecting		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	whole of site		
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario the site is not at risk from flooding, as set out in the Level 1 SFRA (2016).
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low - Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site is already served by the national grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site is already served by an existing water supply.
	Low – Site not already served by existing water supply		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)			
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	High	The site is approximately 160m to the east and 130m to the south of residential properties. However, the site is already partly in use as a waste management facility (although it is an ancillary operation). It is therefore considered that the impact on the amenity of these receptors is acceptable.
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	High	The site has no walking routes within or immediately adjacent to its boundary.
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral sites)	High – Existing facility with potential to modify/intensify operations within boundaries	High	The site is currently partly used as an existing waste management facility (although it is an ancillary operation) and has the potential to modify/ intensify operations within its boundaries. The site is adjacent to a site which is currently used
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	there could be a synergy (potential for co-location)		for concrete batching, aggregates and the importation of concrete blocks (ID 17). As such, synergies could be developed between the facilities/ sites.
	Low – No existing facilities in vicinity		The site is within close proximity to another waste management facility (ID 7), therefore, synergies between these facilities/sites may also be possible.
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	High	The site is adjacent to the River Lea which has the potential to be used to transport waste. Furthermore, the site is also adjacent to a site with an existing operational railhead (ID 17).
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road network, or short distance through	High	The site is located a short distance from the A12 with vehicles travelling through an industrial estate to

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	compatible uses (e.g. industrial estate)		reach it.
	Moderate – Short distance through B roads or incompatible uses (residential/local roads)		
	Low – Long distance through incompatible uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	High	At the time of the site survey there was light traffic on the road network.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	High	The site has suitable access direct onto the road network.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	Moderate	The site is adjacent to the Lea Valley SINC.
	Moderate – Presence of nature conservation interest on adjacent site		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		
Built Environment, Heritage and Landscape			
Visual intrusion – sensitivity of receptors viewing waste development	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)	High	The site is located within an existing industrial estate and is screened from its nearest sensitive receptors by existing buildings.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Low	The site is located within an Archaeological Priority Area.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		

Site 007: Iceland Metal Recycling, Iceland Wharf

Table 7: Basic Site Information – Site 007

Basic Information	
Site ID	007
Name of Site	Iceland Metal Recycling, Iceland Wharf
Site Owner/Occupier (if known)	Prontex Ltd
Date of Visit	15/07/2016
Time of Visit	AM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Photo 4: Showing access & egress with external waste storage



Photo 5: Showing rear of site and frontage onto River Lea & residential flats to far right

Table 8: Detailed Assessment – Site 007

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	High	The site contains a number of small buildings onsite. However, the site is currently in use as a waste management facility, as such, it is considered that the buildings may be suitable for waste management purposes.
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	The site is currently used for waste management. As such, it is considered that no major changes would be required to accommodate waste management uses onsite.
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	Moderate	The site contains small areas which are at risk from surface water flooding.
	Moderate – Potential drainage issues affecting part of the site		
	Low – Potential drainage issues affecting		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	whole of site		
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario the site is not at risk from flooding, as set out in the Level 1 SFRA (2016).
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low - Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site is already served by the national grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site is already served by an existing water supply.
	Low – Site not already served by existing water supply		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)			
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	High	The site is located immediately adjacent to a high rise residential development and further residential developments are located to the north. However, the site is already in use as a waste management facility. It is therefore considered that the impact on the amenity of these receptors may be acceptable.
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	High	The site has no walking routes within or immediately adjacent to its boundary.
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral sites)	High – Existing facility with potential to modify/intensify operations within boundaries	High	The site is an existing waste management facility and has the potential to modify/ intensify operations within its boundaries.
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which		The site is within close proximity to another waste management facility (ID 4), therefore, synergies

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	there could be a synergy (potential for co-location)		between the facilities/sites are possible.
	Low – No existing facilities in vicinity		The site is also within close proximity to a site which is currently used for concrete batching, aggregates and the importation of concrete blocks (ID 17). As such, synergies could be developed between the facilities/ sites.
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	High	The site is adjacent to the River Lea and has the potential to be used to transport waste. Furthermore, the site is also located within close proximity to a site with an existing operational railhead (ID 17). As such, it is considered that there is scope for the railhead to be used.
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road network, or short distance through	Moderate	The site is a short distance from the A12 through an existing industrial estate and adjacent residential

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	compatible uses (e.g. industrial estate)		properties.
	Moderate – Short distance through B roads or incompatible uses (residential/local roads)		
	Low – Long distance through incompatible uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	High	At the time of the site survey there was light traffic on the road network.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	High	The site has suitable access direct onto the road network.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	Moderate	The site is adjacent to the Lea Valley SINC.
	Moderate – Presence of nature conservation interest on adjacent site		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		
Built Environment, Heritage and Landscape			
Visual intrusion – sensitivity of receptors viewing waste development	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)	High	The site is located immediately adjacent to a high rise residential development, therefore it is partially enclosed. However, as the site is already in operation as a waste management facility its visual impact is already experienced, and has the potential to be improved if the site were redeveloped for a new waste facility.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Low	The site is located within an Archaeological Priority Area.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		

Site 010 The Highway (Core) – Local Industrial Location

Table 9: Basic Site Information – Site 010

Basic Information	
Site ID	010
Name of Site	The Highway (Core) – Local Industrial Location
Site Owner/Occupier (if known)	Unknown
Date of Visit	15//07/2016
Time of Visit	AM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Photo 6: Access & egress from public highway to two estates

Table 10: Detailed Assessment – Site 010

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	High	The site contains a number of buildings which could be converted to provide enclosed waste management facilities. The site also contains a number of small buildings which would not be suitable for conversion to a waste management facility so would require demolition.
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	The site is an existing industrial estate. Some of the units within the estate would not require major changes to accommodate a waste management facility whilst some units would require minor adjustments and some units would require major adjustments.
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	Moderate	The site contains a number of areas which are at risk from surface water flooding.
	Moderate – Potential drainage issues affecting part of the site		
	Low – Potential drainage issues affecting		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	whole of site		
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zone 1.
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low - Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site is already served by the national grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site is already served by an existing water supply.
	Low – Site not already served by existing water supply		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)			
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	Low	<p>The site contains a number of residential properties along Bere Street, Cranford Street and Cable Street and a Holiday Inn Express.</p> <p>The site is also immediately adjacent to a number of additional residential properties and the Shadwell Centre located along Schoolhouse Lane.</p> <p>More residential properties are located along Cable Street to the north.</p>
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	Moderate	The site is adjacent to two Green Grid walking routes, one Primary walking route and one LBTH walking route.
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral sites)	High – Existing facility with potential to modify/intensify operations within boundaries	Moderate	The site contains the Cemex Stepney Plant. Synergies could be developed between this plant and a proposed waste management facility.
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which there could be a synergy (potential for		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	co-location)	Low	
	Low – No existing facilities in vicinity		
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	Low	The site is not within close proximity of a wharf, railhead or canal.
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road network, or short distance through compatible uses (e.g. industrial estate)	High	The site has direct access onto the A1203.
	Moderate – Short distance through B roads or incompatible uses (residential/local roads)		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	Low – Long distance through incompatible uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	Moderate	At the time of the site visit the road network was moderately congested.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	High	The site has suitable access on to the road network which is currently used by articulated HGVs and concrete batching lorries.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	High	The site does not contain nor is it adjacent to any nature conservation designations. It also does not appear to contain any undesignated nature conservation interests.
	Moderate – Presence of nature conservation interest on adjacent site		
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		
Built Environment, Heritage and Landscape			

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Visual intrusion – sensitivity of receptors viewing waste development	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)	Low	The site is located immediately adjacent to high rise residential properties which would have the potential to view any proposed waste management facilities.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Low	The site is located within the York Square Conservation Area and an Archaeological Priority Area. The site also contains listed walls, bollards and gate piers along Ratcliffe Orchard.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		

Site 012: Empson Street – Strategic Industrial Location

Table 11: Basic Site Information – Site 012

Basic Information	
Site ID	012
Name of Site	Empson Street – Strategic Industrial Location
Site Owner/Occupier (if known)	Multiple owners/occupiers
Date of Visit	15/07/2016
Time of Visit	PM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Photo 8: Showing highway within industrial location and units



Photo 9: Showing disused warehouse & occupied units to right

Table 12: Detailed Assessment – Site 012

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	High	<p>The site contains a number of buildings which could be converted to provide enclosed waste management facilities.</p> <p>The site also contains a number of small buildings which would not be suitable for conversion to a waste management facility.</p> <p>Furthermore, the site contains an existing waste management facility (Site 001) which has a number of buildings onsite that are in use for waste management purposes.</p>
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	<p>The site is an existing industrial estate. Some of the units within the estate would not require major changes to accommodate a waste management facility whilst some units would require minor adjustments and some units would require major adjustments. Furthermore, the site contains an existing waste management facility.</p>
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	Moderate	<p>The site contains a number of areas which are at risk from surface water flooding.</p>
	Moderate – Potential drainage issues affecting part of the site		
	Low – Potential drainage issues affecting		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	whole of site		
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario the site is not at risk from flooding, as set out in the Level 1 SFRA (2016).
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low - Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site is already served by the national grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site is already served by an existing water supply.
	Low – Site not already served by existing water supply		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)			
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	Low	The northern boundary of the site is immediately adjacent to residential properties. As such, any waste management facility located could have an impact on the amenity of these receptors. That said, a waste management facility currently operates within the site albeit at a relatively low level of activity and is within 250m of these properties. As such, it is considered possible for additional waste management facilities to operate within the site.
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	Low	The site contains one Primary walking route and one Green Grid walking route, and is located immediately adjacent to another Primary walking route, a Green Grid walking route and one LBTH walking Route.
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral sites)	High – Existing facility with potential to modify/intensify operations within boundaries	High	The site contains an existing waste facility and has the potential to modify/ intensify operations within its boundaries.
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which there could be a synergy (potential for		The site also contains the Mix It concrete plant. As such, synergies could be developed between the facility and any proposed waste management facility.

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	co-location)		
	Low – No existing facilities in vicinity		
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	High	The site is located immediately adjacent to the Limehouse Cut and has the potential to be used.
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road network, or short distance through compatible uses (e.g. industrial estate)	Moderate	The site is a short distance from A12 and will travel along the B140 and through industrial areas and adjacent to residential properties.
	Moderate – Short distance through B roads or incompatible uses (residential/local roads)		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	Low – Long distance through incompatible uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	High	At the time of the site survey there was light traffic on the road network.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	High	The site has suitable access on to the road network which is currently used by the vehicles of an existing waste management facility located within the site and Mix It concrete.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	Moderate	The site is adjacent to the Limehouse Cut SINC.
	Moderate – Presence of nature conservation interest on adjacent site		
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		
Built Environment, Heritage and Landscape			

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Visual intrusion – sensitivity of receptors viewing waste development	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)	Low	The site is located immediately adjacent to high rise residential properties which are likely to have views of any proposed waste management facilities to the north of the site.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Low	The site contains the Limehouse Cut Conservation Area.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		

Site 014: Fish Island Strategic Industrial Location

Table 13: Basic Site Information – Site 014

Basic Information	
Site ID	014
Name of Site	Fish Island Strategic Industrial Location (LBTH) and Fish Island Strategic Industrial Location B1a2 (LLDC)
Site Owner/Occupier (if known)	Multiple owners/occupiers
Date of Visit	15/07/2016
Time of Visit	AM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Table 14: Detailed Assessment – Site 014

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	High	<p>The site contains a number of buildings which could be converted to provide enclosed waste management facilities.</p> <p>The site also contains a number of small buildings which would not be suitable for conversion to a waste management facility.</p> <p>Furthermore, the site contains an existing waste management facility which has a number of buildings onsite currently used for waste management purposes.</p>
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	<p>The site is an existing industrial estate. Some of the units within the estate would not require major changes to accommodate a waste management facility whilst some units would require minor adjustments and some units would require major adjustments. Furthermore, the site contains an existing waste management facility.</p>
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	Moderate	The site contains small areas which are at risk from surface water flooding.
	Moderate – Potential drainage issues affecting part of the site		
	Low – Potential drainage issues affecting		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	whole of site		
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario the site is not at risk from flooding, as set out in the Level 1 SFRA (2016).
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low - Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site is already served by the national grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site is already served by an existing water supply.
	Low – Site not already served by existing water supply		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)			
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	Low	The site is immediately adjacent to residential properties located to the north and approximately 60m to the east of additional residential properties. As such, a proposed waste management facility could have an impact on the amenity of these receptors. That said, a waste management facility currently operates within the site and is within 250m of these properties. As such, additional waste management facilities could operate within the site, subject to the type of waste it handles.
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	Moderate	The site is located immediately adjacent to two Green Grid walking routes and one Primary walking route.
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral sites)	High – Existing facility with potential to modify/intensify operations within boundaries	High	The site contains an existing waste facility and has the potential to modify/intensify operations within its boundaries.
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which there could be a synergy (potential for		The site also contains a site which is currently used for concrete batching, aggregates and the importation of concrete blocks (ID 17). As such, synergies could

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	co-location)		be developed between the facility and any proposed waste management facility. Synergies are also possible with an existing waste management facility (ID 7) which is located adjacent to the site.
	Low – No existing facilities in vicinity		
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	High	The site contains a railhead and is directly adjacent to the River Lea which has potential for it to be used to transport waste.
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road network, or short distance through compatible uses (e.g. industrial estate)	High	The site has direct access on to the A12.
	Moderate – Short distance through B		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	roads or incompatible uses (residential/local roads)		
	Low – Long distance through incompatible uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	High	At the time of the site visit there was light traffic on the road network.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	High	The site has direct access onto the road network.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	Moderate	The site is adjacent to the Lea Valley SINC.
	Moderate – Presence of nature conservation interest on adjacent site		
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Built Environment, Heritage and Landscape			
Visual intrusion – sensitivity of receptors viewing waste development	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)	Low	The site is located immediately adjacent to high rise residential properties which would have the potential to view any proposed waste management facilities.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Low	The site is located within an Archaeological Priority Area.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		

Site 016: Land at Wick Lane, Fish Island

Table 15: Basic Site Information – Site 016

Basic Information	
Site ID	016
Name of Site	Land at Wick Lane, Fish Island
Site Owner/Occupier (if known)	Unknown
Date of Visit	15/07/2016
Time of Visit	AM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Table 16: Detailed Assessment – Site 016

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	Moderate	The majority of the site is cleared. However, there are a number of buildings along the site’s eastern boundary which are derelict and are likely to require demolition. This is uncertain.
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	The site will not require any major changes to accommodate a waste management facility as the majority of the site is cleared.
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	Moderate	The site contains small areas which are at risk from surface water flooding.
	Moderate – Potential drainage issues affecting part of the site		
	Low – Potential drainage issues affecting whole of site		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zone 1.
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low - Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site contains a number of buildings and is located within an existing industrial estate. It is therefore considered that it is already connected to the national grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site contains a number of buildings and is located within an existing industrial estate. It is therefore considered that it is already served by an existing water supply.
	Low – Site not already served by existing water supply		

Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	Low	The site is adjacent to residential properties located to the north and approximately 120m to the east of additional residential properties. As such, a proposed waste management facility could have an impact on the amenity of these receptors.
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	Moderate	The site is located immediately adjacent to a Green Grid walking route and a Primary walking route.
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral sites)	High – Existing facility with potential to modify/intensify operations within boundaries	Moderate	The site is located within close proximity to two existing waste management facilities (ID 4 and ID7) which provides the opportunity to develop synergies between the sites.
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which there could be a synergy (potential for co-location)		The site is also within close proximity to a site which is currently used for concrete batching, aggregates and the importation of concrete blocks (ID 17). As such, synergies could be developed between the

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	Low – No existing facilities in vicinity		facilities/ sites.
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	Moderate	The site is located within close proximity to the River Lea with the potential for it to be accessed through existing industrial uses (including existing waste facilities ID 4 and ID 7). The site is also within close proximity of ID 17 which has access to an operational railhead.
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road network, or short distance through compatible uses (e.g. industrial estate)	Moderate	The site is a short distance from the A12 along Wick Lane through an existing industrial estate and adjacent to residential properties.
	Moderate – Short distance through B roads or incompatible uses (residential/local roads)		
	Low – Long distance through incompatible		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	High	At the time of the site visit there was light traffic on the road network.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	Moderate	The site has direct access to the road network. However, it is likely that it will need to be widened to allow HGVs to enter and egress the site safely.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	High	The site does not contain nor is it adjacent to any nature conservation designations. It also does not appear to contain any undesignated nature conservation interests.
	Moderate – Presence of nature conservation interest on adjacent site		
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		
Built Environment, Heritage and Landscape			
Visual intrusion – sensitivity of receptors viewing waste	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage	Low	The site is located immediately adjacent to high rise residential properties which would have the potential

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
development	points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		to view any proposed waste management facilities at the site.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Low	The site is located within an Archaeological Priority Area.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		

Site 017: Bow Midlands West Rail Site

Table 17: Basic Site Information – Site 017

Basic Information	
Site ID	017
Name of Site	Bow Midlands West Rail Site
Site Owner/Occupier (if known)	Network Rail
Date of Visit	15/07/2016
Time of Visit	AM
Staff Name	Jonny Hill (LUC) / Shane Tasker (BPP)



Table 18: Detailed Assessment – Site 017

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Previously developed land	High – site is previously developed.	High	The site is considered to be previously developed land.
	Low – Site is not previously developed (e.g. open space).		
Site Configuration and Infrastructure			
Buildings on site	High – Buildings on site suitable for conversion (e.g. large buildings such as warehouses)	Low	The site has a number of buildings onsite; however, none of them are suitable for conversion.
	Moderate – No buildings on site		
	Low – Buildings on site but not suitable for conversion (e.g. small units/offices) requiring demolition.		
Shape, aspect and layout	High - No major changes required to accommodate waste facility	High	The site would not require any significant changes to accommodate a proposed waste management facility.
	Moderate – Minor adjustments required		
	Low – Development of waste facility not possible without major adjustments e.g. access realignment.		
Drainage	High – No drainage issues on site	Moderate	The site contains small areas which are at risk from surface water flooding.
	Moderate – Potential drainage issues		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	affecting part of the site		
	Low – Potential drainage issues affecting whole of site		
Flood Risk	High - Low risk of flooding (Flood Risk Zone 1 or SFRA showed low risk of flooding in defended scenario)	High	The site is located within Flood Risk Zones 2 and 3. However, as illustrated in the defended scenario the site is not at risk from flooding, as set out in the Level 1 SFRA (2016).
	Moderate - Moderate risk of flooding (SFRA showed risk of flooding in defended scenario affecting part of the site)		
	Low - High risk of flooding (SFRA showed risk of flooding in defended scenario affecting whole of site)		
Subsidence/ Contamination	High - No issues of subsidence or contamination affecting site	High	The site does not appear to have any issues with regard to subsidence or contamination.
	Moderate - Potential subsidence or contamination affecting part of the site		
	Low – Subsidence or contamination affecting whole of the site		
Infrastructure – energy use/ generation	High – Site already served by/connected to the national grid	High	The site is connected to the National Grid.
	Low – Site not already served by existing grid connections		
Infrastructure – water use	High – Site already served by/connected to existing water supply	High	The site is served by an existing water supply.
	Low – Site not already served by existing		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	water supply		
Neighbouring Land Uses (Potential Land Use Conflicts or Synergies)			
Health/ amenity of sensitive receptors	High – Health or amenity of existing or planned sensitive receptors unlikely to be affected due to distance from site (>250m)	Moderate	The site is approximately 70m to the east and 160m to the south of a number of residential properties. As such, a proposed waste management facility could have an impact on the amenity of these receptors.
	Moderate – Health or amenity of some existing or planned sensitive receptors (e.g. <10 properties, schools, hospital, recreation area) may be affected due to proximity to site (<250m)		
	Low – Health or amenity of many existing or planned sensitive receptors (e.g. >10 properties, schools, hospital, recreation area) may be affected due to proximity to site (neighbouring))		
Recreation (public footpaths and rights of way)	High – No public footpaths or rights of way crossing or along boundary of site	High	The site has no walking routes within or immediately adjacent to its boundary.
	Moderate – Public footpaths or rights of way along boundary of site		
	Low – Public footpaths or rights of way crossing site		
Waste facilities (including aggregate and/or mineral sites)	High – Existing facility with potential to modify/intensify operations within boundaries	Moderate	The site is adjacent to an existing waste management facility (ID 4) and is located within close proximity of a second waste management facility (ID 7). It is therefore considered that there could be synergies between the site and the existing facilities.
	Moderate – Existing facility on adjacent/ neighbouring site/in vicinity with which		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	there could be a synergy (potential for co-location)	High	Furthermore, the site is currently used for concrete batching, aggregates and the importation of concrete blocks. As such, synergies could be developed between the facility and any proposed waste management facility.
	Low – No existing facilities in vicinity		
Reprocessing/ energy production	High – Metal/glass/plastic reprocessing etc. or proposed heat user on site	Low	The site does not appear to contain a proposed heat user onsite, nor is it located near to one.
	Moderate – Metal/glass/plastic reprocessing etc. or proposed heat user on neighbouring site		
	Low – No metal/glass/plastic reprocessing etc. or proposed heat user on site or on neighbouring site		
Transport			
Accessibility to rail/water transport modes	High – Suitable access (wharf/railhead/canal directly adjacent to site, with potential to be used, e.g. not in residential and/or office use)	High	The site contains an existing operational railhead and is immediately adjacent to the River Lea with potential for the river to be used to transport waste.
	Moderate – Suitable access (wharf/railhead/canal) close to site (<500m) with potential to be used		
	Low – No suitable access close to site		
Road routing	High – Directly onto primary road network, or short distance through compatible uses (e.g. industrial estate)	High	The site has direct access onto the A12.
	Moderate – Short distance through B roads or incompatible uses		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
	(residential/local roads)		
	Low – Long distance through incompatible uses (residential/local roads)		
Route capacity at time of visit (add capacity at peak times if known)	High – No congestion (i.e. light or no traffic)	Moderate	At the time of the site visit there was a moderate amount of traffic on the route. This is as a result of the site's location immediately adjacent to a set of traffic lights which provide access onto the A12.
	Moderate – Moderately congested		
	Low – Congested		
Access onto road network	High – Suitable access directly on to site	High	The site has suitable direct access to the road network.
	Moderate – Unsuitable access, however, there is potential for improvements / improvements planned		
	Low – Unsuitable access on to site with little potential to create alternative / improve existing access		
Biodiversity			
Potential for nature conservation (designated and undesignated)	High – Unlikely nature conservation interest on site	Moderate	The site is adjacent to the Lea Valley SINC.
	Moderate – Presence of nature conservation interest on adjacent site		
	Low – Presence of nature conservation interest on site (undesignated nature conservation interests could include stream, hedges, flora etc.)		

Site Assessment Criteria	Judgement regarding level of potential suitability of the site for waste use	Assessment	Justification for Judgement
Built Environment, Heritage and Landscape			
Visual intrusion – sensitivity of receptors viewing waste development	High – Enclosed/ obscured, not visible by sensitive receptors/ important vantage points (e.g. residential/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)	Low	The site is located approximately 70m to the east of a number of high rise residential properties which are likely to have views of any proposed waste management facility at this site.
	Moderate – Semi-visible (i.e. transient from road or partially screened)		
	Low – Exposed, highly visible by sensitive receptor/ important vantage points (e.g. constant view from residential area/ recreational/ cultural heritage areas, e.g. historic parks/ gardens etc.)		
Archaeology/ heritage	High – No archaeological/ heritage interest on site	Low	The site is located within an Archaeological Priority Area.
	Moderate – Presence of archaeological/ heritage interest on adjacent site		
	Low – Archaeological/ heritage interest on site		