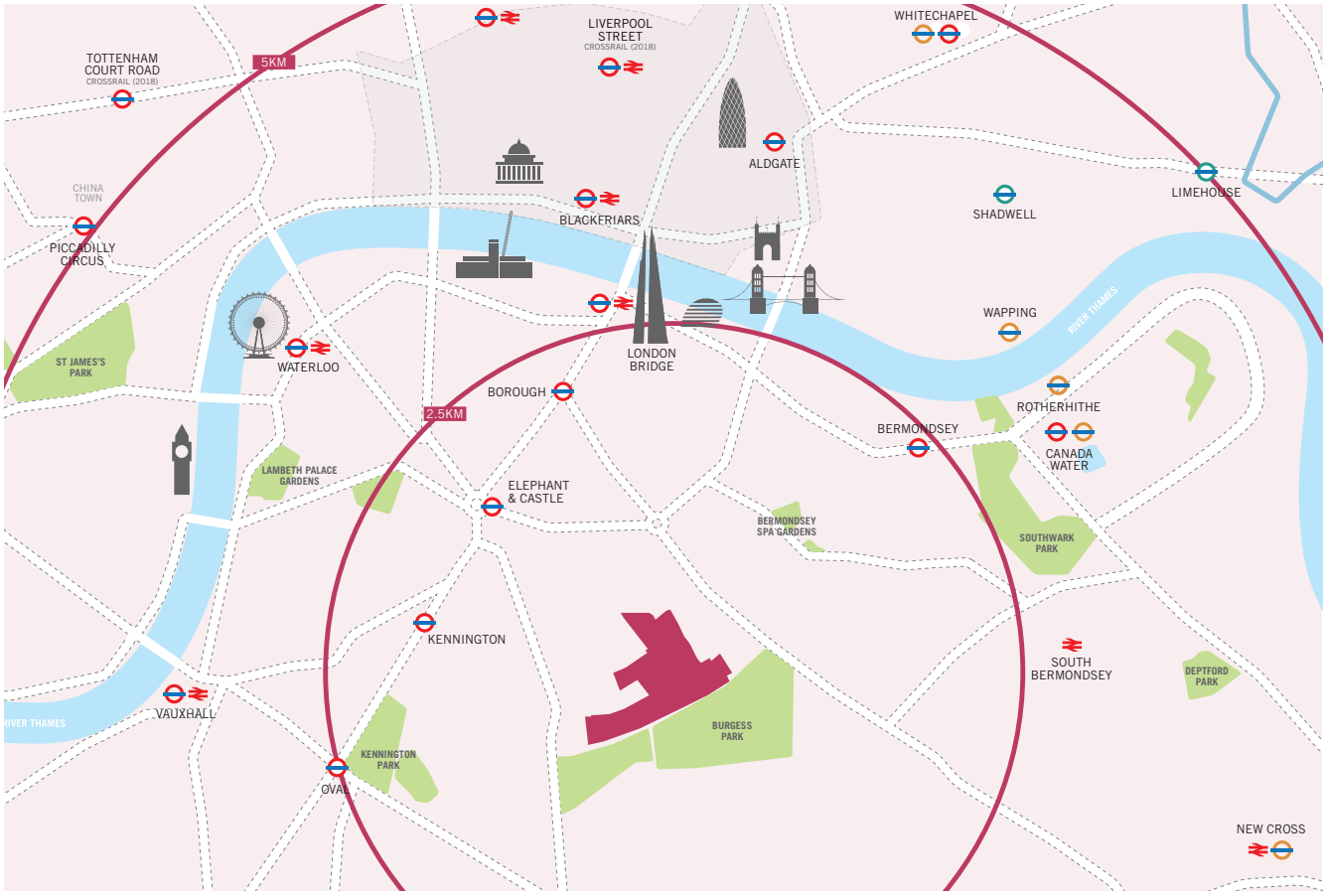

Planning Application for the Aylesbury Estate Regeneration

Masterplan & First Development Site Application

Site Wide Waste Management Strategy

WSP

v1

AYLESBURYNOW

Quality Management

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Final			
Date	23 September 2014			
Prepared by	Michael Berney			
Checked by	Matthew Venn			
Authorised by	Matthew Venn			
Project number	50600304			

AYLESBURY ESTATE

Site Wide Waste Management Strategy

September 2014

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Abbreviations

AAAP	Aylesbury Area Action Plan
BRE	Building Research Establishment
BS	British Standard
COSHH	Control of Substances Hazardous to Health
DCLG	Department for Communities and Local Government
Defra	Department for Environment, Food and Rural Affairs
EPI	Environmental Performance Indicator
FDS	First Development Site
HWRC	Household Waste Recycling Centre
LBS	London Borough of Southwark
LWaRB	London Waste and Recycling Board
NPPF	National Planning Policy Framework
PPS	Planning Policy Statement
SPD	Supplementary Planning Document
SWMP	Site Waste Management Plan
WEEE	Waste Electrical and Electronic Equipment
WRAP	Waste and Resources Action Programme

1 Introduction

1.1 Project Background

1.1.1 WSP UK Ltd. has been commissioned by Notting Hill Housing Trust to prepare a Site Wide Waste Management Strategy to support two planning applications for the comprehensive regeneration of the Aylesbury Estate (the 'Estate').

1.1.2 The design of the residential-led mixed use development proposed through both applications has evolved as a Comprehensive Masterplan compliant with the policy objectives of the adopted 2010 Aylesbury Area Action Plan (AAAP) which proposes the regeneration of the whole Estate. The early phases of the Estate have already been developed or are subject to recent planning permissions, which include Sites 1a and 7.

1.1.3 This Waste Management Strategy considers the potential impacts that may arise from waste generated during site preparation, construction and operational phases with the overall aim of developing a strategy for legislative compliance and good practice in the separation, storage, collection, treatment and/or disposal of waste arisings.

1.1.4 The report also outlines the opportunities for implementing waste mitigation measures for the potential impacts arising during each phase of the development in order to ensure that such measures are consistent with both Government and local authority waste policies and targets.

1.2 Development & Site Description

1.2.1 The two separate planning applications now submitted by the Applicant propose development for the remainder of the AAAP area as follows:

- **First Development Site Application (FDS Application)**: Detailed application for the demolition of existing buildings and redevelopment to create a residential-led development comprising 815 private and affordable units (Use Class C3); flexible community use, early years facility (Use Class D1) or gym (Use Class D2); public and private open space; formation of new accesses and alterations to existing accesses; and energy centre; gas pressure reduction station; associated car and cycle parking; and associated works.
- **Masterplan Application**: Outline application, including access for demolition of existing buildings and redevelopment to provide up to 2,745 private and affordable units (Use Class C3); 600 to 2,500 sqm of employment use (Use Class B1); 200 to 500 sqm of retail space (Use Class A1); 3,100 to 4,750 sqm of community use, medical centre and early years facility (Use Class D1); 600 to 3,000 sqm flexible retail use (Use Class A1/A3/A4) or workspace use (Use Class B1); new landscaping; public and private open space; energy centre; gas pressure reduction station; up to 1,070 car parking spaces; cycle parking; landscaping and associated works.

1.2.2 In combination, the development applied for by the FDS Application and the Masterplan Application is referred to as the 'Comprehensive Development' and will deliver up to 397,565 sqm gross external area (GEA) of floorspace, comprising the following:

- 3,560 residential dwellings (Use Class C3);
- 2,500 sqm of business space / employment use (Use Class B1);
- 3,000 sqm of retail (Use Class A1, A3 or A4) or workspace (Use Class B1);
- 500 sqm of retail (Use Class A1);
- 263 sqm of community / leisure use (Use Class D1 or D2); and

- 4,750 Health / Community / Early Years (Use Class D1).

Site and its Setting

1.2.3 The Estate extends to approximately 26 ha, with the FDS Application site extending to approximately 4 ha and the Masterplan Application site extending to approximately 22 ha.

1.2.4 The FDS Application site lies immediately to the south-west of the Masterplan Application site, across Portland Road. Westmoreland Road forms the northern boundary of the FDS Application site, Portland Street forms the eastern boundary and Albany Road (B214) forms the southern boundary beyond which lies Burgess Park. The aforementioned Site 1a is already developed and is located immediately to the west of the FDS Application site.

1.2.5 The FDS Application site currently consists of residential development in eight blocks between two and 14 storeys in height. Chiltern House and Bradenham House are Jespersen in style and lie to the far east and far west of the Estate respectively and range from 10 and 14 storeys in height. The central portion of the FDS Application site is comprised of five residential blocks also in the Jespersen style (Chartridge 1-68, 69-76, 77-105, 106-119 and 120-149) which are between 10 and 14 storeys in height. Arklow House is a red brick building in the south of the FDS Application site and is between two and five storeys in height. Ellison House is located to the south-west of the FDS Application site and is three storeys in height.

1.2.6 The Masterplan Application site currently consists of residential developments between two and 14 storeys in height. The Masterplan Application site is bordered to the north by East Street, to the east by Alvey Street, to the south by Albany Road (B214), and to the west by Portland Street. This portion of the Site is predominantly comprised of Jespersen style housing blocks between four and eight storeys in height, with three main clusters of red brick housing blocks, including Michael Faraday House and Galtskell House. Directly to the east of Thurlow Street five housing blocks (Wendover) are located, between 10 and 14 storeys, and one directly to the west (Taplow) between 10 and 14 storeys.

1.2.7 The Site primarily comprises buildings and hardstanding, with amenity grassland and scattered trees present in areas of open space and private gardens also present.

1.3 Report Structure

1.3.1 This report is set out in the following format:

- **Section 2: Waste Legislation** - details of the national legislation that have relevance to the FDS Application and Masterplan Application.
- **Section 3: Construction Waste Strategy** - provides an estimate of construction phase waste arisings and details how overarching waste prevention, minimisation and management practices would be undertaken during the construction phase of the FDS Application and Masterplan Application.
- **Section 4: Operational Waste Strategy** - provides an estimate of household and commercial waste arisings and outlines the plan which will be adopted to successfully manage the waste arisings from the FDS Application and Masterplan Application once operational.
- **Section 5: Summary & Conclusions**.
- **Appendix 1: National, London and Local Waste Policy & Guidance**.

2 Waste Legislation, Policy and Guidance

2.1 Introduction

2.1.1 This section contains details of the national legislation that have relevance to the FDS Application and Masterplan Application. National, London and local waste policy and guidance reviewed during the preparation of this Waste Management Strategy are listed below.

2.2 National Legislation

2.2.1 A list of relevant items of national waste legislation is outlined below in reverse chronological order:

- **The Waste (England and Wales) (Amendment) Regulations 2011 (as amended)** - From 1 January 2015, waste collection authorities must collect waste paper, metal, plastic and glass separately. It also imposes a duty on waste collection authorities, from that date, when making arrangements for the collection of such waste, to ensure that those arrangements are by way of separate collection.
- **Revised Waste Framework Directive (2008)** - Clarifies the definition of 'waste' and of other concepts such as 'recycling' and 'recovery'. It has applied a new Waste Hierarchy, expanded the 'polluter pays' principle by emphasising producer responsibility, applies more stringent waste reduction and waste management targets for Member States and requires enhanced content in waste management plans.

2.3 National, London and Local Waste Policy

2.3.1 The relevant national, London and local waste policy that was reviewed during the preparation of this Waste Management Strategy is outlined below and further detail provided in **Appendix 1**:

- National Planning Policy Framework (2012);
- Planning Policy Statement 10: Planning for Sustainable Waste Management (2011);
- Waste Management Plan for England (2013);
- The Mayor's Vision for London's Waste (2010);
- Making Business Sense of Waste: The Mayor's Business Waste Strategy for London (2010);
- The London Plan: Spatial Development Strategy for Greater London (2011);
- Southwark Core Strategy (2011);
- The Southwark Plan (2007);
- LBS, Waste Management Strategy 2003 - 2021 (2003);
- LBS, Waste Management Guidance Notes for Residential Developments (February 2014);
- LBS, Residential Design Standards Supplementary Planning Document (SPD) (October 2011);
- LBS, Sustainable Design and Construction SPD (February 2009); and
- LBS, Aylesbury Area Action Plan (2010).

3 Construction Waste Strategy

3.1 Introduction

3.1.1 The following sections detail how overarching waste management practices will be undertaken during the construction phase of the Comprehensive Development.

3.2 Considerate Constructors Scheme

3.2.1 As part of this proposal it is recommended that the Principal Contractor will register the construction sites with the 'Considerate Constructors Scheme'. This is a national initiative, set up by the construction industry. Sites that register with the Scheme sign up and are monitored against a Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.

3.2.2 The Scheme is concerned about any area of construction activity that may have a direct or indirect impact on the image of the industry as a whole. The main areas of concern fall into three main categories: the environment, the workforce and the general public. Waste management is a key area of focus and on-site considerations may include:

- How waste is avoided, reduced, reused, and/or recycled;
- Whether there is a Waste Management Plan/Strategy and how this is monitored; and
- The type of feedback received (if any) as to how much waste on-site is diverted from landfill.

3.2.3 It is expected that registered construction sites work in an environmentally conscious, sustainable manner.

3.3 Site Waste Management Plans

3.3.1 SWMPs were a statutory requirement for all projects with a construction cost of more than £300,000. In August 2013 after a period of public consultation, Defra decided to revoke the *Site Waste Management Plans Regulations 2008* from 1st December 2013[1].

3.3.2 SWMPs provide a structure for systematic waste management at all stages of a project's delivery and are an example of best practice for managing construction waste. Credits for waste within the Code for Sustainable Homes can still be achieved for preparing a SWMP. A framework SWMP has been included in **Appendix 2**, as an example of how a typical SWMP is structured.

3.4 Demolition Waste

3.4.1 A pre-demolition audit of the Site was undertaken in July 2014 by the Building Research Establishment (BRE).[2] The estimated quantity of demolition materials identified during the audit totals approximately 296,313 tonnes (127,061m^3) and the key demolition materials were identified as concrete, bricks and metal. The recycling of these materials is deemed feasible and an overall diversion of waste from landfill target of 97% was proposed.

3.4.2 The findings of the audit were based on measurements of different materials from each building type, as well as estimates from drawings and visual assessment.

3.4.3 A summary of the main demolition materials identified has been provided in **Table 3.1**.

[1] Gov.uk (2013) *Proposed repeal of construction Site Waste Management Plan Regulations (2008) Summary of responses and Government response*
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/236269/site-waste-manage-consult-sum-resp-20130830.pdf
[2] BRE (2014) *Pre-demolition audit of Aylesbury Estate, Southwark*

Table 3.1: Demolition materials identified: estimated tonnage and volume

Material	Tonnes	Volume (m^3)
Concrete	272,241	113,444
Brick	15,374	9,026
Steel	5,323	678
Plaster	2,465	3,521
Glass	873	355
PVC	20	14
Timber	17	23
Total*	**296,313**	**127,061**

* Note: the estimates do not include internal fittings such as bathrooms, kitchens, heating, lighting and plumbing.

Source: BRE (2014) *Pre-demolition audit of Aylesbury Estate, Southwark*

3.4.4 A Demolition Management Plan will be produced and implemented by the Principal Contractor before any demolition and subsequent construction activities take place. This would include topics such as legislative requirements, public and property protection, noise, dust management and storage of hazardous materials.

3.4.5 The intention will be for demolition waste materials to be reused in the subsequent construction of the Comprehensive Development where appropriate and practicable.

Asbestos

3.4.6 If Asbestos Containing Materials (ACMs) are identified at the Site, a 14 day notification will be issued to the Health & Safety Executive (HSE). Any ACMs will then be removed to the requirements of *The Control of Asbestos Regulations 2012*.

3.4.7 ACMs will be transported by a licensed carrier and disposed of in a licensed landfill site (to be designated). All necessary transfer / consignment notes will be issued as part of the completion waste file.

Hazardous Materials

3.4.8 All hazardous materials will be removed ahead of demolition works; however, a certain amount of soft stripping may be required in order to provide adequate access for removal purposes.

3.4.9 Hazardous waste materials will be transported by licensed carriers and disposed of in appropriate off-site facilities.

3.5 Site Preparation and Earthworks

3.5.1 Waste arising from site clearance, primary infrastructure and earthworks is expected to comprise rubble, tarmac from former hard standings, gravel, clay material and possibly contaminated material.

3.5.2 Any clean excavated material that cannot be reused on-site would be removed by licensed waste carriers and sent for reuse at another development site or sent for disposal at appropriately licensed facilities (these are expected to be inert waste landfill sites).

Management of Contaminated Material

3.5.3 Any contaminated material that would require removal from the Comprehensive Development sites would be collected by suitable waste carriers and sent for disposal at appropriately licensed hazardous waste facilities.

3.6 Construction Waste

3.6.1 The Building Research Establishment (BRE) has developed indicators to aid in the calculation of construction waste arisings at the design stage of a new development. The Environmental Performance Indicator (EPI) measures tonnes of waste/100m^2 of floor area. **Table 3.2** shows the relevant EPI for the FDS Application and Masterplan Application.

Table 3.2: BRE construction waste benchmarks

Project type	Tonnes / 100m^2 gross internal floor area
Residential	16.8
Public Buildings	22.4
Commercial Offices	23.8
Commercial Retail	27.5
Healthcare	12.0
Education	23.3

Source: BRE (2012) *Waste Benchmark Data (issued June 2012)*

3.6.2 The indicators above have been used to start measuring construction waste generated from the FDS Application and Masterplan Application and relates to waste generation rates where no minimisation, reuse or recycling of materials has taken place. It would be the baseline figure for which a reduction in waste arisings would be undertaken.

3.6.3 **Table 3.3** shows the estimated construction waste arisings for the FDS Application, based on Gross Internal Area (GIA) and the applicable BRE waste benchmarks.

Table 3.3: Estimated construction waste arisings (FDS Application)

Block	No. of units	GIA (m^2)*	Tonnes/ 100m^2 floor area (BRE)	Construction waste (tonnes)*
1A	50	6,670	16.8	1,120
1C	40	3,377	16.8	567
1D	24	2,384	16.8	401
Sub-total	***114***	***12,430***	**-**	***2,088***
2A	6	782	16.8	131
2B	27	3,764	16.8	632
Sub-total	***33***	***4,546***	**-**	***764***
3A	20	2,722	16.8	457
3B	20	1,930	16.8	324
Sub-total	***40***	***4,652***	**-**	***782***
4A	92	8,430	16.8	1,416
4B	47	5,198	16.8	873
4C	26	2,578	16.8	433
4D	36	4,219	16.8	709
4E	14	1,566	16.8	263
Sub-total	***215***	***21,991***	**-**	***3,694***
5A	80	7,040	16.8	1,183
5B	14	1,666	16.8	280
5C	39	4,305	16.8	723
5D	33	3,138	16.8	527
5E	65	6,635	16.8	1,115
Sub-total	***231***	***22,783***	**-**	***3,827***
6A	64	5,829	16.8	979
6B	35	3,496	16.8	587
6C	31	3,070	16.8	516
6D	52	5,009	16.8	842
Sub-total	***182***	***17,404***	**-**	***2,924***
Total Residential	**815**	**83,805**	**-**	**14,079**
1B (Community Centre)		263	22.4	**59**
TOTAL		**84,068**	**-**	**14,138**

Source: AES Planning (27/08/2014) *Aylesbury Regeneration: Design Freeze Summary Schedule RevC*

* Figures have been rounded.

3.6.4 The estimations show that 14,138 tonnes of waste may arise from construction of the FDS Application.

3.6.5 **Table 3.4** and **Table 3.5** shows the estimated construction waste arisings for the residential and non-residential elements of the Masterplan Application respectively, based on indicative floor areas and the applicable BRE waste benchmarks.

Table 3.4: Estimated construction waste arisings (Masterplan Application - residential)

Description	Indicative no. of units	Indicative total floor area (m^2)	Tonnes/ 100m^2 floor area (BRE)	Construction waste arisings (tonnes)*
Target Rent	1,014	80,756	16.8	13,567
Shared Ownership	376	22,416	16.8	3,766
Private Sale	1,343	110,749	16.8	18,606
Total	**2,733**	**213,921**	**-**	**35,939**

Source: HTA (27/08/2014) *Masterplan Schedule of Accommodation v17*

* Figures have been rounded.

Table 3.5: Estimated construction waste arisings (Masterplan Application - non-residential)

Description	Indicative floor area range (m^2)	Project type (BRE)	Tonnes/ 100m^2 floor area (BRE)	Construction waste arisings (tonnes)*
Employment	600 - 2,500	Commercial Offices	23.8	143 - 595
Retail	200 - 500	Commercial Retail	27.5	55 - 138
Community use, medical centre and early years facility	3,100 - 4,750	Public Buildings	22.4	694 - 1,064
Flexible retail use or workspace use	600 - 3,000	Commercial Retail	27.5	165 - 825
Total	**4,500 - 10,750**	**-**	**-**	**1,057 - 2,622**

Source: WSP UK Ltd. (2014) *Aylesbury Estate Environmental Statement, Chapter 1: Introduction*

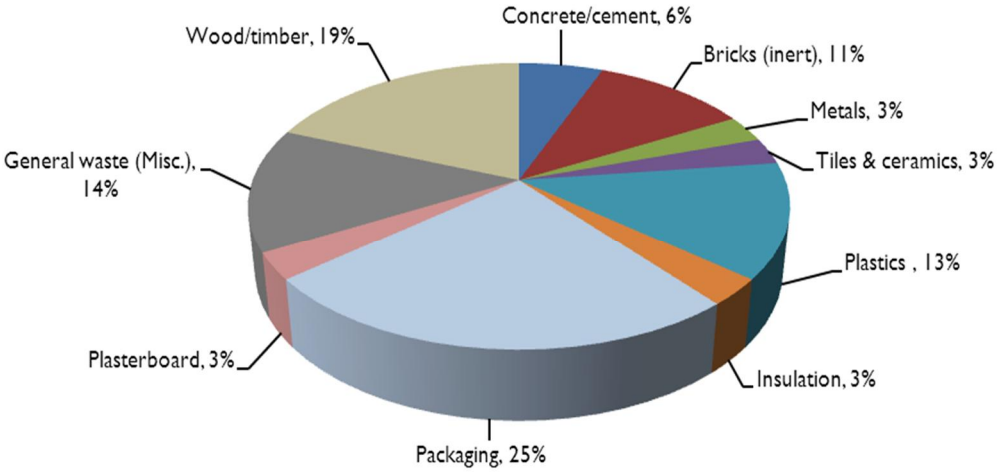
* Figures have been rounded.

3.6.6 The estimations show that 36,996 to 38,561 tonnes of waste may arise from construction of the Masterplan Application, based on the above indicative floor area ranges.

3.6.7 In combination, the Comprehensive Development may generate 51,134 to 52,699 tonnes of construction waste.

3.6.8 **Figure 3.1** illustrates the estimated composition of construction waste arisings for the FDS Application and Masterplan Application, based on data from UK construction projects of a similar nature.

Figure 3.1: Estimated construction waste composition (Source: SmartWaste)



3.6.9 The figures above are based on standard construction operations in the UK and the estimated volumes identified above can be lowered through on-site good waste management practice. Opportunities to prevent and reduce the generation of construction waste are detailed in the following sub-sections.

3.7 Raw Materials and Waste Storage

3.7.1 The location and provision of raw materials and waste storage on-site would be clearly labelled, identifying the materials that can be received. Provisions that would be made would include:

- Temporary offices retaining all details relating to health, safety and waste management monitoring and reporting details;
- Storage areas for raw materials and assembly areas for construction components would be located away from sensitive receptors;
- Colour-coded skips/containers would be provided for segregated waste streams for reuse and recycling;
- Dedicated skips would be provided for any waste that requires off-site disposal;
- Hazardous waste materials would be stored in secure bunded compounds in appropriate containers which are clearly labelled to identify their hazardous properties and are accompanied by the appropriate Control of Substances Hazardous to Heath (COSHH) assessment sheets; and
- Any fuels, oils and chemicals would be stored in appropriate containers within secure bunded compounds in accordance with good site practice and regulatory guidelines and located away from sensitive receptors.

3.7.2 The provision of effective and secure storage areas for raw materials is important to ensure that potential loss of material from damage, vandalism or theft is avoided. These measures would be supported by:

- Ensuring deliveries to the site are, as far as reasonably practicable, on a 'just in time' basis;
- Providing appropriate on-site security; and
- Installing temporary security fencing.

3.7.3 Temporary site waste segregation areas would be provided to ensure construction waste materials were securely stored prior to recycling or disposal. It is acknowledged, however, that construction sites can be space constrained; therefore the segregation of waste may not separate the full suite of materials suitable for recycling and this may be done off-site by appropriately licensed waste contractor(s).

3.7.4 Implementation of good practice measures in terms of on-site storage and security practices would assist in reducing unnecessary wastage of material and ensure that high standards are maintained throughout the development process.

3.8 Setting Targets

3.8.1 Appropriate targets and objectives need to be set in relation to the minimisation and recycling of any waste materials. This would ensure that a clear action plan is generated for the management of specified types and quantities of materials identified.

3.8.2 The findings of any site audits would assist in the development of suitable material-specific targets and these would be agreed at the inaugural meetings with the contractors.

3.8.3 **Table 3.6** provides an overview of the government's Waste and Resources Action Programme (WRAP) Standard, Good, and Best Practice recovery rates by material:

Table 3.6: Standard, good, and best practice recovery rates by material

Material	Standard recovery* %	Good practice recovery* (quick win) %	Best practice recovery* %
Timber	57	90	95
Metals	95	100	100
Plasterboard	30	90	95
Packaging	60	85	95
Ceramics	75	85	100
Concrete	75	95	100
Inert	75	95	100
Plastics	60	80	95
Miscellaneous	12	50	75
Electrical Equipment	Limited information	70**	95
Furniture	0-15	25	50
Insulation	12	50	75
Cement	Limited information	75	95
Liquids and oils	100	100	100
Hazardous	50	Limited information***	Limited information***
* Proposed waste management actions 'Reuse' and 'recycling' are forms of waste recovery.			
** This is a required recovery target for the type of Waste Electrical and Electronic Equipment (WEEE) likely to be produced from construction sites, e.g. lighting (the WEEE Regulations).			
***This cannot be 100% as most hazardous waste streams (e.g. asbestos) must be landfilled.			

3.8.4 To ensure that the system of waste minimisation, reuse and recycling is effective, consideration would be given to the setting of on-site waste targets for the FDS Application and Masterplan Application and a suitable programme of monitoring at regular intervals to focus upon:

- Quantifying raw material wastage;
- Quantifying the generation of each waste stream;
- Any improvements in current working practices;
- Methods by which the waste streams are being handled and stored; and
- The available waste disposal routes used, e.g. landfill, waste transfer stations.

3.8.5 The Principal Contractor would be responsible for the setting and review of waste targets from the outset to ensure that high standards are maintained with the emphasis being on continual improvement.

3.8.6 Specific waste quantification and monitoring would assist in determining the success of waste management initiatives employed and progress against these targets should be relayed back to the Project Team.

3.9 Promotion of Best Practice

3.9.1 As part of the encouragement of on-site best practice, there would also be a need to ensure that suppliers of raw materials for the projects are committed to reducing surplus packaging associated with the supply of any raw materials. This includes the reduction of plastics (i.e. shrink wrap and bubble wrap), cardboard and wooden pallets. This may involve improved procurement and consultation with selected suppliers regarding commitments to waste minimisation, recycling and the emphasis on continual improvement in environmental performance.

3.9.2 **Table 3.7** summarises the most important mitigation measures to minimise the potential waste of on-site materials during the proposed works. It is important to note, however, that not all raw materials would be provided by local suppliers.

Table 3.7: Measures to reduce the wastage of raw materials

Ordering	**Delivery**
Avoid: ▪ Over-ordering (order 'just in time') ▪ Ordering standard lengths rather than lengths required ▪ Ordering for delivery at the wrong time (update programme regularly)	Avoid: ▪ Damage during unloading ▪ Delivery to inappropriate areas of the site ▪ Accepting incorrect deliveries, specification or quantity
Storage	**Handling**
Avoid: ▪ Damage to materials from incorrect storage ▪ Loss, theft or vandalism through secure storage and on-site security	Avoid: ▪ Damage or spillage through incorrect or repetitive handling

3.9.3 Where practicable, waste streams that have the potential to be reused on-site or transported off-site for recycling would need to be segregated. Although every effort would be made to retain all suitable materials on-site, it is possible that some of these materials cannot be reused or recycled during the proposed works. In these situations, the Site Manager would work to identify suitably licensed waste facilities in order for material to be redistributed to other suitable sites. This represents the most sustainable alternative to landfill disposal.

3.10 Monitoring and Reporting

3.10.1 It would be a condition of contract for the Principal Contractors to discuss and agree any recovery rates (see **Table 3.6** above) to be targeted at the inaugural meetings. Monitoring reports would then be generated on a regular basis which would include details of the progress made in diverting waste materials from landfill, against these pre-agreed targets.

3.10.2 On completion of the proposed works, the contractors would report on the site performance against the agreed waste targets to the Project Team and LBS. This would be demonstrated through providing evidence of the actual volume of waste collected for disposal and the volume collected for reuse and recycling.

3.10.3 Contractors would be expected to provide evidence through the collation of documentation such as waste transfer notes, invoices etc.

3.11 Transport and Traffic Impacts

3.11.1 The logistics associated with waste from the proposed works would be affected by a wide range of factors. The quantity and types of waste materials generated would fluctuate during this period and the resulting number of waste collections would be dictated by a range of variables, including the amount of storage space for waste, the capacity of containers used, the materials segregated for recycling and whether any on-site processes would be used for reducing the volume of waste (compactors/balers/shredders etc.).

3.11.2 The Principal Contractors would provide construction waste logistics forecasts, which would be discussed with waste contractors and LBS following appointment of relevant parties.

3.11.3 The impact of traffic associated with the movement of raw and waste materials during the proposed works on surrounding neighbourhoods and the local road network would be minimised by a combination of factors. Options include minimising, where possible, the off-site removal of waste to landfill and adoption of vehicle backhauling.

3.11.4 Further information on the management of construction traffic can be found in The Transport Assessment prepared by WSP which accompanies the planning applications.

4 Operational Waste Strategy

4.1 Introduction

4.1.1 This chapter outlines the strategy which will be adopted to successfully manage the waste arisings from the FDS Application and Masterplan Application once operational.

4.2 Waste Management Services Provided by LBS

4.2.1 **Table 4.1** outlines the current waste management services that are provided by and on behalf of LBS:

Table 4.1: LBS waste management services

Refuse	Houses: Wheeled bin Estates, flats or mansion blocks: Communal refuse bins.
Recycling	Houses: Blue wheeled bin Estates, flats or mansion blocks: Communal bins ■ Paper, cardboard, glass bottles and jars, food tins, drink cans, aerosols, foil, plastics and food and drink containers (e.g. Tetra Paks).
Garden and food waste	Houses: Brown wheeled bin
Bulky waste	Chargeable collection service.
Public recycling sites	A range of public recycling sites across the borough: ■ Paper; cardboard; glass bottles and jars; food tins and drink cans; plastic bottles and glass.
Household Waste Recycling Centre	Devon Street Refuse and Recycling Centre (RRC): 43 Devon Road (off Old Kent Road), London, SE15 1AL.

4.2.2 The residents of the Comprehensive Development may receive waste collections from a private waste contractor and not LBS, however, they will be able to recycle the same materials as the LBS collection service.

4.3 Current LBS Recycling Performance

4.3.1 According to Defra, from LBS's total household waste tonnage of 106,492 in 2012-13, approximately 32,410 tonnes was reused, recycled and composted[3].

4.3.2 The household waste recycling and composting rate for LBS was therefore 30.4%.

4.3.3 As a comparison, the proportion of household waste sent for recycling, composting or reuse in England as a whole was 43.2% in 2012-13.

[3] Defra (2013) *ENV18 - Local authority collected waste: annual results tables*
https://www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables

4.4 Generation of Household Waste

4.4.1 Household waste generation from the Comprehensive Development has been estimated using Gov.uk municipal waste statistics and LBS data.

4.4.2 At this stage in the design process the figures can only be considered indicative as a variety of factors, such as the on-going promotion of waste minimisation and recycling, consumer habits and population changes will impact on waste generation rates in future years.

4.4.3 As a baseline, **Table 4.2** outlines how the average household waste generation rate per residential unit was established.

Table 4.2: Average household waste generation for LBS

Total household waste generated within Southwark in 2012-13 (tonnes)	106,492
Total number of households within LBS boundary[4]	126,491
Estimated mean waste generation per household per annum (tonnes)	0.84

4.4.4 This average household waste generation rate was then used to provide an estimate of the waste arisings from the future residents of the Comprehensive Development. This is outlined in **Table 4.3**.

Table 4.3: Estimated household waste arisings

Description	No. of units	Tonnes per annum*	Tonnes per week*
FDS Application	815	685	13
Masterplan Application	Up to 2,745	Up to 2,306	Up to 44
Comprehensive Development	**Up to 3,560**	**Up to 2,990**	**Up to 58**

* Figures have been rounded

4.4.5 At this stage it is estimated that if current waste generation levels remain constant, the Comprehensive Development could potentially generate up to 2,990 tonnes of household waste per annum (up to 58 tonnes per week) should all units be constructed and occupied. This could equate to a 2.8% increase in household waste generation within Southwark (based on the 2012-13 waste generation figure).

4.4.6 Of this tonnage, a significant proportion will be separated for recycling and composting. For indicative purposes, assuming that at least half of the household waste from the Comprehensive Development will be recycled or composted (there is a 50% recycling target by 2020[5]), this equates to up to 1,495 tonnes per annum (up to 29 tonnes per week).

4.5 Household Waste Storage Requirements

4.5.1 Household waste storage requirements at the FDS Application have been quantified based on the formulas within LBS's *Waste Management Guidance Notes for Residential Developments*.[6]

[4] Office for National Statistics: Neighbourhood Statistics: Southwark: Housing
[5] Southwark Core Strategy
[6] LBS (2014) *Waste Management Guidance Notes for Residential Developments (February 2014)* http://www.southwark.gov.uk/downloads/download/2589/waste_management_guidance_notes_for_residential_properties

4.5.2 The formulas used to quantify the estimated total weekly refuse (non-recyclable and recyclable) arising from the FDS Application and also residual waste and recycling provisions are as follows:

- *Total weekly refuse (L) = 30 litres per unit + 70 litres per bedroom;*
- *Residual waste provision (L) = Total weekly refuse (L) x 0.75*
- *Recycling provision (L) = Total weekly refuse (L) x 0.5*

4.5.3 **Table 4.4** outlines the waste storage capacity requirements for the elements of the FDS Application that will have communal bin stores.

Table 4.4: Communal waste storage capacity requirements - FDS Application

Block	Total units	Total beds	Total weekly refuse (litres)	Recycling provision (litres)	Recycling provision (no. bins)	Residual provision (litres)	Residual provision (no. bins)	Total bins
1A	50	53	5,210	2,605	2.4	3,908	3.6	7
1C	36	40	3,880	1,940	1.8	2,910	2.6	5
1D	22	41	3,530	1,765	1.6	2,648	2.4	5
2A	6	6	600	300	0.3	450	0.4	2
3B	13	15	1,440	720	0.7	1,080	1.0	2
4A	92	129	11,790	5,895	5.4	8,843	8.0	14
4B	34	71	5,990	2,995	2.7	4,493	4.1	8
4C	22	32	2,900	1,450	1.3	2,175	2.0	4
4D	32	76	6,280	3,140	2.9	4,710	4.3	8
4E	8	10	940	470	0.4	705	0.6	2
5A	80	112	10,240	5,120	4.7	7,680	7.0	12
5B	12	20	1,760	880	0.8	1,320	1.2	3
5C	24	36	3,240	1,620	1.5	2,430	2.2	5
5D	29	38	3,530	1,765	1.6	2,648	2.4	5
5E	46	81	7,050	3,525	3.2	5,288	4.8	9
6A	60	84	7,680	3,840	3.5	5,760	5.2	10
6B	31	50	4,430	2,215	2.0	3,323	3.0	5
6C	26	42	3,720	1,860	1.7	2,790	2.5	5
6D	47	92	7,850	3,925	3.6	5,888	5.4	10
Total	**670***	**1,028**	**92,060**	**46,030**	**-**	**69,045**	**-**	**121**

* 670 of 815 residential units will have communal waste stores.

4.6 Storage of Household Waste (Comprehensive Development)

4.6.1 In the first instance, residents would segregate and store their refuse and recycling through the use of internal waste storage in their kitchens (in accordance with the requirements of the Code for Sustainable Homes - a single bin of at least 30 litres is provided in an adequate internal space). This would promote the segregation of refuse and recyclable materials at source.

Houses and Maisonettes

4.6.2 Each of the houses will be provided with sufficient external space for three 240 litre wheeled bins: mixed dry recycling, general waste, and mixed food and garden waste. The preferred location for these storage areas will be at the rear of the property. Wheeled bins will be stored within a designated area.

4.6.3 Similarly, the maisonettes, excluding those facing onto Albany Road, will be provided with the above containers but adjacent to their front door in a small enclosure.

4.6.4 To ensure safe usage, sufficient space will be allocated to allow each wheeled bin to be individually accessed and removed by residents.

4.6.5 For bulky waste, it has been assumed that residents will make arrangements with LBS for collection and temporarily store the waste in an agreed location at ground level.

4.6.6 As the 50 extra care units will also generate household waste, an appropriately sized area for the storage of the required waste containers for refuse and recycling will be provided associated with this facility.

Flats

4.6.7 Waste storage for flats will comprise good quality communal bin stores with larger capacity wheeled bins for the separate collection of waste and recyclable materials. Residents will be required to deposit their waste and recycling in the communal bins. In accordance with LBS' *Sustainable Design and Construction Supplementary Planning Document*, residents will not be required to walk more than 30 metres with their waste to a communal store (horizontal distance only). These stores will be sensitively located and designed to take into account the aesthetics of the area.

4.6.8 Suitable hard surfaces will be used to provide sufficient space for each wheeled bin to be individually accessed and removed to ensure safe usage for residents and collection crews.

4.6.9 All waste storage areas will be clearly labelled to ensure cross contamination of refuse and recycling is minimised.

4.6.10 For bulky waste, it has been assumed that residents will make arrangements with LBS for collection and temporarily store the waste in an agreed location at ground level.

4.7 Collection of Household Waste (Comprehensive Development)

4.7.1 In accordance with LBS' *Sustainable Design and Construction Supplementary Planning Document*, the aim will be for the distance from the curtilage of properties (or the agreed collection point for wheeled bins) to the refuse collection vehicle to not exceed 10 metres.

4.7.2 Where properties are located off the main and secondary collection routes (i.e. those with private driveways), residents will be required to take their wheeled bins to agreed collection points. These will be established with LBS at the detailed design stage.

4.8 Storage of Commercial Waste (Comprehensive Development)

4.8.1 At this stage it is expected that the non-residential elements will be provided with their own/shared waste storage areas for refuse and recycling with ease of access for end users and by collection vehicles.

4.8.2 All waste storage areas will be clearly labelled to ensure cross contamination of refuse and recycling is minimised.

4.8.3 Floor surfaces will be of a smooth, continuous finish and free from steps or other obstacles. Any steps will incorporate a drop-kerb. Measures will be taken to ensure that access to the agreed collection point will not be restricted on collection day.

4.9 Collection of Commercial Waste (Comprehensive Development)

4.9.1 It is assumed at this stage that collection of commercial waste will be undertaken via external waste management contractors. It will be the responsibility of the commercial occupants to arrange for refuse and recycling to be collected from their premises. The type of collection will be dependent on the nature of the businesses.

4.9.2 Waste collection frequency will be dependent upon the volume of waste generated, the storage method (i.e. whether balers and waste compactors are used) and the schedule of the appointed waste contractor.

5 Summary and Conclusion

5.1 Summary of the Strategy

Waste from the Construction Phase

5.1.1 It is recommended that the Client/Principal Contractor will register the construction site with the 'Considerate Constructors Scheme'.

5.1.2 For waste arising from the construction phase of the FDS Application and Masterplan Application, materials would be separated into key waste groups. The contractor would provide a suitable area(s) within the construction site for the separation of materials for recycling (e.g. timber, metals, packaging, hardcore etc.).

5.1.3 It is acknowledged, however, that construction sites can often be space constrained and this may limit the opportunity for segregation of the full suite of materials on-site. This may instead be undertaken off-site by a suitable waste contractor.

5.1.4 It would be a condition of contract for the contractors to discuss and agree waste recovery rates to be targeted at the inaugural meeting. A monitoring report would then be generated on a regular basis which would include details of the progress made in diverting waste materials from landfill, against these pre-agreed targets.

Waste from the Operational Phase

5.1.5 It is estimated that the Comprehensive Development could potentially generate up to 2,990 tonnes of household waste per annum (up to 58 tonnes per week) should all units be constructed and occupied.

5.1.6 Residential units will incorporate sufficient internal waste storage containers to promote the separation of recycling and compostable materials at source.

5.1.7 Externally, sufficient areas will be provided to enable waste containers to be stored in accordance with LBS's refuse and recycling collection arrangements.

5.1.8 The non-residential elements will be provided with their own/shared waste storage areas for refuse and recycling with ease of access for end users and by collection vehicles.

5.2 Conclusion

5.2.1 This Waste Management Strategy has taken into account the need to lessen the overall impact of waste generation through prevention, minimisation, reuse and recycling of materials from both the construction and operational phases of the FDS Application and Masterplan Application.

5.2.2 The proposals set out in this Strategy meet the requirements of relevant waste policy and follow applicable guidance.

5.2.3 Means by which to further reduce the waste arisings and increase recycling rates from the FDS Application and Masterplan Application have been identified, to ensure that the FDS Application and Masterplan Application can contribute to improved waste management performance.

Appendix 1 - National, London and Local Waste Policy & Guidance

National Waste Policy

National Planning Policy Framework (2012)[7]

The National Planning Policy Framework ('the Framework') sets out the Government's economic, environmental and social planning policies for England and provides a framework within which local people and councils can produce local and neighbourhood plans. Most of the existing Planning Policy Statements (PPSs) have been abolished and replaced by 12 'core' planning principles.

Unfortunately, the Framework does not provide much clarity on planning policy for the development of waste infrastructure and states that:

> '*This Framework does not contain specific waste policies, since national waste planning policy will be published as part of the National Waste Prevention Plan for England. However, local authorities preparing waste plans and taking decisions on waste applications should have regard to policies in this Framework so far as relevant*'.

Further guidance is included in the Waste Management Plan for England (2013) which superseded Waste Strategy for England 2007 for these purposes.

Planning Policy Statement 10: Planning for Sustainable Waste Management (Revised March 2011)[8]

PPSs were taken into account by local planning authorities in the preparation of local development documents. They could also be material considerations to decisions on individual planning applications. Although the majority of PPSs have been abolished, PPS10 will sit alongside the proposed new Waste Management Plan for England.

As of August 2014, the Government is consulting on proposals to update PPS10 which was originally published in July 2005 and revised in March 2011[9]. The updated policy follows a similar structure to policies in the NPPF, setting out policy which should be considered through local plan making and also when determining planning applications.

With regard to waste management, PPS10 outlines the following:

> *'Regional planning bodies and all planning authorities should, to the extent appropriate to their responsibilities, prepare and deliver planning strategies that:*
>
> - *Help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for;*
> - *Provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet the needs of their communities;*

[7] Department for Communities and Local Government (DCLG) (2012) *National Planning Policy Framework* http://www.communities.gov.uk/documents/planningandbuilding/pdf/2115939.pdf

[8] DCLG (2011) *Planning Policy Statement 10: Planning for Sustainable Waste Management* http://www.communities.gov.uk/documents/planningandbuilding/pdf/1876202.pdf

[9] DCLG (2013) *Updated national waste planning policy: Planning for sustainable waste management - Consultation* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225581/Updated_national_waste_planning_policy_-_Planning_for_sustainable_waste_management_-_Consultation.pdf

- *Help implement the national waste strategy, and supporting targets, are consistent with obligations required under European legislation and support and complement other guidance and legal controls such as those set out in the [Environmental Permitting regulations];*
- *Help secure the recovery or disposal of waste without endangering human health and without harming the environment, and enable waste to be disposed of in one of the nearest appropriate installations;*
- *Reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business, and encourage competitiveness; and*
- *Ensure the design and layout of new development supports sustainable waste management'.*

Waste Management Plan for England (2013)[10]

The Waste Management Plan for England, published in December 2013, provides an analysis of the current waste management situation in England and fulfils the mandatory requirements of Article 28 of the revised Waste Framework Directive (WFD). The WFD required that Member States ensure that their competent authorities, in this instance Defra, establish one or more waste management plans covering all of their territory.

The Plan does not introduce new policies or change the landscape of how waste is managed in England. Its core aim is to bring current waste management policies under the umbrella of one national plan. It supersedes the previous waste management plan, the Waste Strategy for England 2007.

The mandatory requirements of Article 28 of the revised WFD specify that waste management plans must contain the following information:

- '*An analysis of the current waste management situation in the geographical entity concerned, as well as the measures to be taken to improve environmentally sound preparing for re-use, recycling, recovery and disposal of waste and an evaluation of how the plan will support the implementation of the objectives and provisions of the revised WFD.*
- *The type, quantity and source of waste generated within the territory, the waste likely to be shipped from or to the national territory, and an evaluation of the development of waste streams in the future;*
- *Existing waste collection schemes and major disposal and recovery installations, including any special arrangements for waste oils, hazardous waste or waste streams addressed by specific Community legislation;*
- *An assessment of the need for new collection schemes, the closure of existing waste installations, additional waste installation infrastructure in accordance with Article 16 (on the proximity principle), and, if necessary, the investments related thereto;*
- *Sufficient information on the location criteria for site identification and on the capacity of future disposal or major recovery installations, if necessary; and*
- *General waste management policies, including planned waste management technologies and methods, or policies for waste posing specific management problems.*

In addition, Schedule 1 to the Waste (England and Wales) Regulations 2011 sets out other obligations for the Plan which have been transposed from the revised WFD. These other obligations include:

[10] Defra (2013) *Waste Management Plan for England*
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265810/pb14100-waste-management-plan-20131213.pdf

- *In pursuance of the objectives and measures in Directive 94/62/EC (on packaging and packaging waste), a chapter on the management of packaging and packaging waste, including measures taken pursuant to Articles 4 and 5 of that Directive.*
- *Measures to promote high quality recycling including the setting up of separate collections of waste where technically, environmentally and economically practicable and appropriate to meet the necessary quality standards for the relevant recycling sectors.*
- *As appropriate, measures to encourage the separate collection of bio-waste with a view to the composting and digestion of bio-waste.*
- *As appropriate, measures to be taken to promote the reuse of products and preparing for reuse activities, in particular -*

    (a) measures to encourage the establishment and support of reuse and repair networks;

    (b) the use of economic instruments;

    (c) the use of procurement criteria; and

    (d) the setting of quantitative objectives.
- *Measures to be taken to ensure that by 2020*

    (a) at least 50% by weight of waste from households is prepared for reuse or recycled.

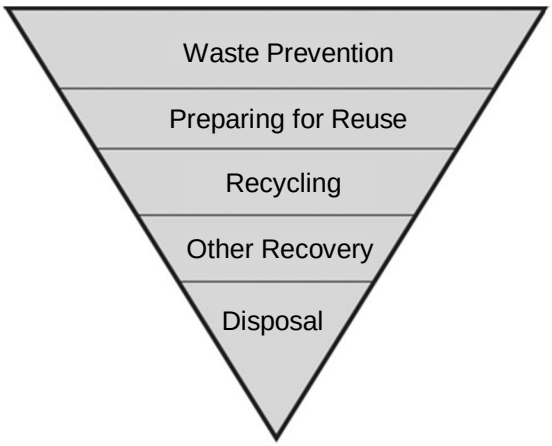
(b) at least 70% by weight of construction and demolition waste is subjected to material recovery.'

Waste Hierarchy

The Waste Hierarchy requires avoidance of waste in the first instance followed by reducing the volume that requires disposal after it has been generated.

It gives an order of preference for waste management options to minimise the volume for disposal, as shown in **Figure 1**.

Figure 1: The Waste Hierarchy



Source: Waste Framework Directive

The main principles of the Waste Hierarchy are:

- Waste should be prevented or reduced at source as far as possible;
- Where waste cannot be prevented, waste materials or products should be reused directly or refurbished and then reused;

- Waste materials should be recycled or reprocessed into a form that allows them to be reclaimed as a secondary raw material;
- Where useful secondary materials cannot be reclaimed, the energy content of the waste should be recovered and used as a substitute for non-renewable energy resources; and
- Only if waste cannot be prevented, reclaimed or recovered, should it be disposed of into the environment and this should only be undertaken in a controlled manner.

The Waste Hierarchy has been implemented in England and Wales by the *Waste (England and Wales) Regulations 2011*. These regulations require that an establishment or undertaking that imports, produces, collects, transports, recovers or disposes of waste must take reasonable steps to apply the Waste Hierarchy when waste is transferred or disposed of.

Waste Policy & Guidance for London

The Mayor's vision for London's waste (2010)[11]

In 2010 the Mayor unveiled London's first dedicated draft document aimed at tackling the 16 million tonnes of waste from sources such as the commercial & industrial (C&I) and construction, excavation & demolition (CE&D) sectors.

The strategy, which is non-statutory, particularly focuses on waste reduction and highlights the economic benefits of businesses improving their waste management practices.

When the document was published, London recycled 57% of its waste; the Mayor specified a target of 80% of all London's waste to be recycled or composted by 2031, setting the following recycling targets for London:

- To recycle or compost 70% of C&I waste by 2020, maintaining this performance to 2031.
- To reuse and recycle 95% of CE&D waste by 2020, maintaining this performance to 2031.

In November 2011 *Making Business Sense of Waste* was published.

Making Business Sense of Waste: The Mayor's Business Waste Strategy for London[12]

Making Business Sense of Waste is the first Mayoral strategy for London's business waste. It sets out initiatives to help all kinds of London's businesses, from shops, restaurants, office buildings, manufacturers to construction companies to save money and reduce harm to the environment through better waste management.

The London Plan: Spatial Development Strategy for Greater London (2011)[13]

The London Plan is the '*strategic plan setting out an integrated social, economic and environmental framework for the future development of London*'.

The strategy includes the following waste management policy that has influenced the development of more specific business waste guidance:

[11] Greater London Authority (2010) *The Mayor's vision for London's waste*
http://legacy.london.gov.uk/mayor/environment/waste/docs/vision-jan2010.pdf
[12] Greater London Authority (2011) *Making Business Sense of Waste: The Mayor's Business Waste Strategy for London*
http://www.london.gov.uk/publication/londons-wasted-resource-mayors-municipal-waste-management-strategy
[13] Greater London Authority (2011) *The London Plan*
http://www.london.gov.uk/sites/default/files/The%20London%20Plan%202011.pdf

Policy 5.16 Waste self-sufficiency

The Mayor will work with London boroughs and waste authorities, the London Waste and Recycling Board (LWaRB), the Environment Agency, the private sector, voluntary and community sector groups, and neighbouring regions and authorities to:

- *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 2031;*
- *create positive environmental and economic impacts from waste processing, and*
- *work towards zero biodegradable or recyclable waste to landfill by 2031.*

This will be achieved by targeting the following:

- *minimising waste;*
- *encouraging the reuse of and reduction in the use of materials;*
- *exceeding recycling/composting levels in commercial and industrial waste of 70% by 2020;*
- *improving London's net self-sufficiency through reducing the proportion of waste exported from the capital over time, and*
- *working with neighbouring regional and district authorities to co-ordinate strategic waste management across the greater south-east of England.'*

Local Waste Policy

Southwark Core Strategy (2011)[14]

The Core Strategy sets out LBS' long term vision, spatial strategy and strategic policies with an implementation plan up until 2026 to deliver sustainable development. With regard to waste, the Core Strategy states the following:

Strategic Policy 13 - High environmental standards

4. Increasing recycling and composting, minimising waste, reducing landfill and making more use of waste as a resource. By 2015 we will be recycling and composting at least 45% of municipal waste, 50% by 2020 and aspiring to achieve 60% by 2031. By 2020, we will be recycling at least 70% of commercial and industrial waste. We are aiming to meet the Mayor's target of recycling or reusing 95% of construction, excavation and demolition waste by 2020.

5. Requiring applicants to demonstrate how they will avoid waste and minimise landfill from construction and use of a development.

The Southwark Plan[15]

The Southwark Plan is the framework for all land use and development and contains the planning policies used to determine planning permission. With regard to waste, the Plan states the following:

Policy 3.7 Waste reduction

240 All developments are required to ensure adequate provision of recycling, composting and residual waste disposal, collection and storage facilities. The design of waste and recycling facilities must be easily and safely accessible, improving local amenity.

[14] LBS (2011) *Southwark Core Strategy* http://www.southwark.gov.uk/downloads/download/2648/documents_for_core_strategy_adoption
[15] LBS (2007) *The Southwark Plan* http://www.southwark.gov.uk/info/856/planning_policy/1241/the_southwark_plan

241 To demonstrate how the waste management hierarchy will be applied during construction and after the development is completed, the council will require major development proposals to be supported by a sustainability assessment.

LBS, Waste Management Strategy (2003)[16]

In consultation with residents, the Southwark waste management strategy document was published in 2003. This document details the policies and strategies for managing waste within the London Borough of Southwark through to the year 2021. With regards to key waste management targets, the strategy sets out the following:

2.1 Targets

As a minimum Southwark Council will meet the following targets:

2.1.1 Recycling & Recovery

These targets incorporate Southwark's requirements under the Best Value Statutory Performance Standards for 2003/04 and 2005/06, the aspirational targets for recovery in Waste Strategy 2000 and all those laid out in the Mayor of London's Strategy:

Table 2.1: Southwark Strategy Targets

Year	Recycling/Composting Target Household Waste	Recovery of value Target Municipal Solid Waste
2003/04	10%	35%
2004/05	14%	37.5%
2005/06	18%	40%
2010/11	30%	45%
2015/16	40%	67%
2020/2	50%	75%

2.1.2 Landfill Directive

Southwark will:

- *By 2020 reduce the biodegradable waste landfilled to 35% of that produced in 1995.*'

LBS, Waste Management Guidance Notes for Residential Developments (February 2014)[17]

The purpose of this document provides guidance on the waste storage and collection requirements that should be considered for residential developments in Southwark. The following extracts are considered to be of relevance the waste management at the FDS Application:

'*2.2 Residential premises with communal refuse facilities*

The following formula is used to calculate the estimated total weekly refuse (recyclable and non-recyclable) arising from a residential development with communal refuse facilities:

- *Total weekly refuse (L) = 30L per unit + 70L per bedroom*

[16] LBS (2003) *Waste Management Strategy*
http://www.southwark.gov.uk/download/downloads/id/334/southwark_council_waste_management_strategy_2003_-_2021
[17] LBS (2014) *Waste Management Guidance Notes for Residential Developments (February 2014)*
http://www.southwark.gov.uk/downloads/download/2589/waste_management_guidance_notes_for_residential_properties

It is recommended that space be provided for recycling bins to accommodate 50% of this total weekly volume. This is in line with the revised British Standard (BS5906 Waste Management in Buildings).

Refuse (or residual waste) provision is required for 75% of the total weekly refuse arising:

- *Recycling provision (L) = Total weekly refuse (L) x 0.5*
- *Residual waste provision (L) = Total weekly refuse (L) x 0.75*

Southwark operates a commingled recycling service from our communal recycling bins. The following can all be recycled together in one container:

- *Paper and cardboard*
- *Cans, food tins, aerosols, and foil*
- *Glass bottles and jars*
- *Plastic bottles, food trays and pots*
- *Food and drink cartons, e.g. Tetra Pak*

Adequate storage to accommodate the above should be provided as a minimum. Details of all the recycling and refuse containers available from the council to help you meet the capacity requirements discussed above can be found at section 6.

2.3 Internal storage

To help residents to actively move towards a culture of recycling wherever possible, we encourage architects / designers to provide space (typically in the kitchen area of each property) for residents to be able to separate out waste into two different containers - one for recyclable and one for non-recyclable waste.

Wherever possible, depending on whether it is operational possible and subject to risk assessments on fire and safety grounds, residents in flats or apartments can benefit from the council's weekly clear bag recycling doorstep collection scheme. Designs for walkways and corridors should incorporate sufficient space for clear bags to be left outside the resident's doorway on the day of collection.

In suitable residential developments, and again where operationally feasible, refuse collection may also be on a door-to-door basis once a week, rather than using communal facilities. Storage spaces on corridors for refuse containment prior to day of collection should also be designed in to be included on each floor.

Additionally, within corridors and/or foyers of developments, spaces should be designed in for signage to promote recycling and refuse schemes.

2.4 Organic waste options within purpose built flats

Purpose built flats should consider

- *on site in-vessel food waste digesters*
- *storage space including maturing areas*
- *storage areas for communal food waste containers; storage space inside kitchens for seven litre containers*
- *food waste disposal units (underneath sinks)*
- *sufficient space to accommodate wormeries on balconies.*

2.5 Storage for bulky articles

Southwark operates a bulky waste collection service for its residents. Separate accommodation at ground level should be provided for the storage of large items such as white goods and furniture, prior to special collection by our bulky waste crews. This site should include an area for signage detailing the options and procedures for disposal of bulky waste. By the terms of the council's bulky waste service, items may only be put out on the day of arranged collection, and not before.

4. SPECIFICATIONS

4.1 Access specifications

The distance residents have to walk to the bin store must be under 30m (horizontal distance) (Building Regulations approved document H6). Consideration should be taken wherever possible for potential elderly or disabled residents and their ability to travel this distance. Please refer to both BS 8300:2009 and DD 266:2007 (both available at http://www.bsigroup.com/en-GB/) for codes of practice regarding access to and design of accessible buildings

Bin stores should be located at street level. Where this is not possible, a suitable ground floor collection area must be indicated on drawings submitted for approval. In addition, a written statement must be attached describing the proposed method for transporting the containers to the ground level collection point, indicating parking arrangements for a tractor unit, if these are required. If waste containers are to be transported to ground level by a goods lift, it must be large enough to accommodate at least one waste container as well as the porter. In large developments more than one waste container will need to be accommodated. The lift doors and adjacent lobby or corridor must be sized so that waste containers can be easily manoeuvred. Within new buildings, the siting of storage containers should, wherever possible, allow movement of containers to the collection point without being taken through a building (unless it is a porch, garage or carport or other open covered space).

Collection points should be at street level and within 10m of the nearest stopping point for refuse collection vehicles

The path between the bin storage and collection point must be free of steps and kerbs (a drop-kerb should be designed in wherever possible).

Paths should also be level, unless the gradient falls away from the housing or chamber, in which case it should not exceed 1:12 (BS5906).

Bin stores which are accessible from the street should be provided with a lockable door fitted with either a Fire Brigade (FB) 1, FB 2 or FB 4 mortice lock (waste collection operatives carry keys for these locks).

Where there are electronic gates and/or barriers controlling access to waste container housing a tradesperson button or code device should be in use. Codes and/or keys should be provided to the council prior to bins being installed.

Doors or gates to any container housing must not open out over the public highway. Doors should also be fitted with a hook back facility to prevent damage from bins colliding into doors upon entry or exit. Handles should be fitted on the outside of the door to facilitate opening. Doorways must be wide enough for bins to fit through (see dimensions in section 6).

4.2 Storage specifications

All bins must be accessible within the bin store.

Waste storage facilities should not block any utility service points.

Bin storage areas must not obstruct sight lines for pedestrians, drivers and cyclists.

Bins should be in a separate storage area from bicycles.

Bins should be inside or at least enclosed. If bins are used outside they should be secured in a compound to prevent them being moved to a position next to the building and set on fire. Stores should be designed and located in such a way as to limit potential noise disturbance to residents (for example through the sound of glass breaking) either through use by said residents or during collection of waste.

Storage sites should include areas for instructional signage detailing correct use of the facilities.

Within any enclosed storage area there should be adequate lighting that is easily maintained and good natural ventilation.

Communal container housing should have an impervious floor to permit washing down. Receptacles should remain closed at all times and all waste correctly deposited within them, rather than at their side, to prevent access to that waste by pests and vermin.

Waste storage areas should be of adequate height to allow the lids of containers to be fully opened; a minimum height of 2m is required.

Skips should never be placed against a building and should normally be a minimum of 6m away from any part of the premises.

In mixed use developments, separate refuse areas should be provided for residential and commercial uses.'

LBS, Residential Design Standards Supplementary Planning Document (October 2011)[18]

This supplementary planning document (SPD) sets out the standard of design expected from residential development in Southwark. With regard to waste, the SPD states the following:

'*Applicants must ensure that there is storage space for the following:*

Internal space for storage of waste should be provided within kitchens (in cupboards) and should have a minimum capacity of 30 litres and be able to store at least three bins for different types of waste. No bin should be smaller than seven litres.

All mixed use developments should:

- *Ensure that the residential and other land uses are appropriately separated to ensure the amenity of all occupiers of the site. There should be separate entrances and separate waste and recycling storage provision.*'

LBS, Sustainable Design and Construction Supplementary Planning Document (February 2009)[19]

The Sustainable Design and Construction Supplementary Planning Document states the following which is of relevance to waste management at the FDS Application:

'*6.2 Provide facilities for sustainable waste management*

- *Enough space should be provided on-site to securely and safely store waste and recycling bins. This storage space should be designed according to the following principles:*

[18] LBS (2011) *Residential Design Standards Supplementary Planning Document (October 2011)*. http://www.southwark.gov.uk/info/200151/supplementary_planning_documents_and_guidance/1253/residential_design_standards_spd

[19] LBS (2009) *Sustainable Design and Construction Supplementary Planning Document (February 2009)*. http://www.southwark.gov.uk/info/200151/supplementary_planning_documents_and_guidance/1254/sustainable_design_and_construction_spd

- *Bins should be stored at ground level and there should be a flat route between the storage area and the point where they will be collected from.*
- *The collection point should be accessible by the size of collection vehicle used in Southwark. The route between the storage area and collection point should be wide enough to allow bins to pass through easily.*
- *Bins should be stored as near to the boundary of a site as possible, and in the case of large bins (over 240L) no further than 10 metres.*
- *Occupants should not have to walk more than 30 metres to the storage area, excluding any vertical distances.*
- *The storage area should be appropriately screened and it should allow easy access to all the bins being stored.*
- *Where internal streets will be used by waste collection vehicles, these will need to be wide enough and strong enough to accommodate these vehicles.*
- *Space for composting organic waste should be provided in residential development. This should be designed as part of private or communal green spaces on a site. This should be located in an easily accessible location that is well drained and receives as much sun as possible.*

Space should be provided inside buildings where occupants can separate out waste into separate containers for recyclables, organic waste and non-recyclables.'

Appendix 2 - Framework Site Waste Management Plan

Introduction

Site Waste Management Plans

SWMPs aim to address two key issues:

- **Improving materials resource efficiency**, by promoting the economic use of construction materials and methods so that waste is minimised and any waste that is produced can be reused, recycled or recovered in other ways before disposal options are explored; and
- **Reducing fly-tipping**, by restricting the opportunities available for the illegal disposal of waste by ensuring compliance with existing legal controls and providing a full audit trail of any waste that is removed from the construction site.

The SWMP for the construction phase will be updated regularly to give an accurate record of how work is progressing against the waste quantity estimates.

As the project enters different construction stages and as new trade contractors come on-site, the SWMP will be revised in light of their waste management methods and waste targets.

For waste that is reused or recycled on-site, the SWMP will be updated to describe how much of the estimated volume or tonnage has been processed.

For waste that is removed from the site, the SWMP will be updated to record the identity of the person removing the waste, the type (and quantity) of waste removed and the site to which it has been taken.

At the end of the project the completed SWMP, containing records of all waste management actions, will be reconciled against what was planned before the work commenced. Regular updating during the proposed works phase should make this a relatively straightforward process.

The aim of this outline site-wide SWMP is to enable the project to:

- Comply with statutory requirements;
- Better control risks relating to materials and waste on-site;
- Establish a system to help make cost savings through improved management of material supplies, storage and handling and better management of the recovery and disposal of waste.
- Help deal with queries from environmental regulatory bodies regarding the disposal of waste generated by the project; and
- Demonstrate how it manages waste and minimises cost and risks.

Note: A compliant SWMP must be in place prior to the commencement of any construction works on-site.

It must be acknowledged that SWMPs are 'live' documents, which must be regularly updated by the Principal Contractor to record how waste is actually managed during the course of the construction project. WSP UK Ltd. will not be responsible or have any liability whatsoever for the development and/or implementation of this outline site-wide SWMP following planning submission.

Project Information

Information

The following table provides an overview of information that is specific to the project.

Table 2.1 - Project information

Project Name:	
Location:	
Client:	
Principal Contractor:	
Project Start Date:	
Project End Date:	
Description of Project:	
Site Footprint (m^2)	
Where the SWMP will be kept on-site	

Outline Construction Plan and Phasing

The indicative programme for the project is set out below:

Table 2.2 - Construction programme

Work Phase	Start Date	End Date
TBC		
TBC		
TBC		

Responsibilities

Declaration

The following declaration must be completed by the Client and Principal Contractor prior to work commencing on-site.

The Client and Principal Contractor in charge of the project will take all reasonable steps to ensure that:

1. All waste from the site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990(a) and the Environmental Protection (Duty of Care) Regulations 1991(b) and;
2. Materials will be handled efficiently and waste managed appropriately.

Client		Principal Contractor	
Signed by		**Signed by**	
Print name		**Print name**	
Organisation		**Organisation**	
Date		**Date**	

The persons responsible for on-site waste management during the project are:

Name	Position	Company

The persons listed are collectively responsible for the following:

- Promoting awareness of the SWMP among the work force.
- Waste planning including identification of anticipated waste types and their associated European Waste Catalogue (EWC) codes.
- Monitoring and reporting site waste.
- Monitoring and encouraging waste segregation on-site.
- Monitoring the effectiveness of the SWMP.
- Forming a good working relationship with the waste management contractor(s).
- Encouraging suggestions for better waste management on-site.
- Reviewing and regularly updating the SWMP.

Waste Minimisation

Pre-Design

This section outlines decisions taken before the SWMP was drafted on the nature of the project, its design, construction method or materials employed in order to minimise the quantity of waste produced on-site.

Table 4.1 - Waste minimisation actions

Pre-Design Stage	
Design Stage	

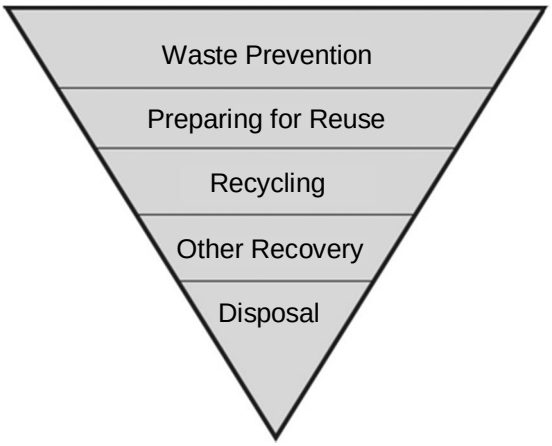
Construction Waste Strategy

Waste Hierarchy

The Waste Hierarchy is a theoretical model that is central to UK waste management policy. It requires avoidance of waste in the first instance, followed by reducing the volume that requires disposal after it has been generated.

It gives an order of preference for waste management options to minimise the volume for disposal, as shown in the **Figure 5.1.**

Figure 5.1: The Waste Hierarchy



Source: Revised Waste Framework Directive

The main principles of the Waste Hierarchy that shall be adopted in the project are:

- Waste should be prevented or reduced at source as far as possible;
- Where waste cannot be prevented, waste materials or products should be reused directly or refurbished and then reused;
- Waste materials should be recycled or reprocessed into a form that allows them to be reclaimed as a secondary raw material;
- Where useful secondary materials cannot be reclaimed, the energy content of the waste should be recovered and used as a substitute for non-renewable energy resources; and
- Only if waste cannot be prevented, reclaimed or recovered, should it be disposed of into the environment and this should only be undertaken in a controlled manner.

Waste Minimisation

All measures to reduce the waste on-site are to be considered. This will include the control of construction materials to site for ‘just-in-time’ deliveries to reduce the amount of material that needs to be stored on-site (reducing the risk of damage to raw materials and so minimising waste) and adequately protected or isolated material storage areas.

Reuse

Opportunities to reuse materials associated with the construction works will be considered.

It is envisaged that all topsoil will be reused and that no imported topsoil will be require to implement the landscape proposals.

Additional materials that can be reused or practices adopted may include:

- Resizing of timber for formwork and site walkways;
- Using timber off-cuts to make construction site signage;
- Surface and grey water used for dust suppression on-site;
- Reuse packaging as protection for finished work (and then either reusing again, or as a minimum, recycling); and
- Return cycles for pallets and other transport-related items.

Many of the opportunities for reusing of materials during the project will be dictated by the working practices of the contractors. It will be policy of the Principal Contractor to encourage them to employ sustainable waste management practices and encourage reuse where possible.

Recycling

Some manufacturers provide recycling schemes for their products - e.g. plasterboard - and it is recommended that these services are part of the project procurement strategy to buy this as part of the sub-contract or via a waste management contractor.

It is anticipated that the main recyclable materials such as metal, timber, plastics etc. will be collected in separate containers with clear labelling and the remaining waste will be collected in large containers which will be sent off-site and separated by a waste management contractor.

Disposal

Hazardous and non-hazardous waste streams are to be identified on-site and removed by the responsible waste management contractor.

The waste management option of last resort is disposal into a landfill site. All other options above will need to be explored prior to disposal. Landfill is also very quickly becoming the least economical option due to reduction in landfill site availability and increases in Landfill Tax.

Considerate Constructors Scheme

It is recommended that the Principal Contractor registers the Site with the 'Considerate Constructors Scheme' which is a national initiative, set up by the construction industry[20].

Sites that register are monitored against a Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.

The Scheme is concerned about any area of construction activity that may have a direct or indirect impact on the image of the industry as a whole. The main areas of concern fall into three main categories: the environment, the workforce and the general public. Waste management is a key area of focus and on-site considerations may include:

- How waste is avoided, reduced, reused, and/or recycled;
- Whether there is a SWMP and how this is monitored; and
- What type of feedback is received (if any) as to how much waste on-site is diverted from landfill.

It is expected that registered construction sites work in an environmentally conscious, sustainable manner.

Training & Awareness

Each contractor will be responsible for training their workforce on waste management procedures.

The Principal Contractor will ensure that site workers are provided with a suitable site induction and encourage contractors to include appropriate waste reduction and recycling training for their workers. Where possible, the Principal Contactor will arrange for 'toolbox talks' on waste management practices at the site.

The Principal Contractor will appoint a Waste Champion who will be the main point of contact should any site workers have queries regarding the management of waste materials at the project.

Some waste streams will be segregated on-site but the majority of the waste segregation will take place off-site. The waste management contractor(s) will be responsible for the training of their workforce to enable effective segregation of materials for reuse or recycling.

To promote the waste management message at the project there will be signs and posters around the site and welfare and office areas showing waste disposal areas, types of waste containers and waste reduction messages.

[20] Considerate Constructors Scheme http://www.ccscheme.org.uk/

Forecast of Arisings

This section provides a forecast of the wastes that are expected to be generated from the project during its construction.

Earthworks

It is expected that non-contaminated material generated as a result of earthworks and site preparation activities will be, in order of preference, reused on-site where possible, reused at other nearby developments (subject to suitability), or as a last resort, disposed of at landfill (inert, non-hazardous).

It is not expected that contaminated material will be generated as a result of earthworks and site preparation, as the site is largely agricultural. Any contaminated material will be assessed for potential remediation and reuse either on-site, or, failing this, disposed of at landfill (hazardous).

Following detailed foundation design, it is forecasted that earthwork material will be generated as a result of the proposed earthwork activities associated with the attenuation pond and drainage and fill works to the north east corner of the site.

The mechanical and electrical services associated with the site-wide house building activities will be backfilled after laying and testing and therefore no great quantities of excavated materials are anticipated from these activities.

Any materials that are generated from the strategic infrastructure works will be reused wherever possible on-site.

Construction Waste

The Building Research Establishment (BRE) has developed indicators to aid in the calculation of construction waste arisings at the design stage of a new development.

The Environmental Performance Indicator (EPI) measures tonnes of waste/100m^2 of gross internal floor area (as an actual not bulk volume).

Table 6.1 shows the average EPIs for the project:

Table 6.1: Waste Benchmarks

Project Type	Tonnes construction waste / 100m^2 floor area*
Residential	16.8

* Source: BRE Waste Benchmark Data (2012)

The indicator above has been used to start quantifying construction waste likely to be generated from the project. The figures relate to waste generation rates where no minimisation, reuse or recycling of materials has taken place. It will be the baseline figure for which a reduction in waste arisings will be undertaken.

Table 6.2 shows the estimated construction waste arisings, based on the total floor areas of the buildings and the construction waste benchmark standards from BRE. (Note: these figures are based on actual volume, not bulk volume).

Table 6.2 - Estimated construction arising

Construction component	Benchmark figure	Floor area (m^2)	Estimated construction arisings (tonnes)
Residential	16.8		

Table 6.3 displays indicative waste arising forecasts for the project as a whole. These figures are indicative as, at this stage, it has only been possible to quantify the potential waste arisings from the construction phase of the project.

Table 6.3 - Project arising forecast and suggested management routes

Waste Category and Type [EWC Code]	Estimated Quantity		Trade Contractor Package	Waste Minimisation Opportunities	Reuse/Recycling		Recovery (off-site)	Disposal (off-site)
	(m^3)	(tonnes)*			On-site	Off-site		
Bricks [170102]				Segregate and store on-site	Crush and use as backfill	Crush and use as backfill (aggregate replacement for use in sub-base)		Inert / non-hazardous landfill
Concrete [170101]				Prefabrication of concrete formwork off-site, on-site batcher, planning of concrete pours	Crush and use as backfill	Crush and use as backfill (6F2 or aggregate replacement for use in sub-base)		Inert / non-hazardous landfill
Furniture [170904]				Remove and sell furniture, fixtures and fittings prior to work commencing	Store items for reuse in new development	Provide items to reuse organisations	Energy from waste facility	Non-hazardous landfill
Hazardous [170903*]				N/A	N/A	N/A	Energy from waste facility	Hazardous Landfill
Inert (e.g. mixed rubble, excavation material, glass) [1701]				Segregate and store on-site	Crush and use as backfill	Crush and use as backfill (6F2 or aggregate replacement for use in sub- base)		Inert / non-hazardous landfill
Canteen / Office [200301]				Use reusable crockery and cutlery, minimise printing of paper	Reuse paper	Segregation for recycling and/or composting	Energy from waste facility	Non-hazardous landfill
Insulation (glass						Manufacturer take-back;		Non-hazardous

fibre, mineral wool, foam plastic) [170604]						segregate for reprocessing		landfill
Metals [1704]				Pre-fabrication, correct ordering, 'just in time' delivery, store correctly		Segregate and send to metal recycler		Non-hazardous landfill
Packaging (e.g. paint pots, pallets, cardboard, cable drums, wrapping bands, polythene sheets) [1501]				Ask suppliers to send materials with minimal packaging, use of multi-trip containers, bulk purchase as opposed to individual purchase	Retain and return reusable packaging and materials to suppliers	Segregate packaging into key material streams for recycling	Energy from waste facility	Non-hazardous landfill
Gypsum (e.g. plasterboard, render, plaster, cement, fibre cement sheets, mortar) [170802]				Use of standard lengths, correct storage to prevent deterioration / damage	Reuse off-cuts	Segregate and send to plasterboard recycler		Dedicated stable non-reactive hazardous cell in non-hazardous landfill
Plastics [170203]				Ask suppliers to send materials with minimal plastic wrap	Reuse packaging as protection for finished work	Segregate and send to plastics recycler	Energy from waste facility	Non-hazardous landfill
Timber [170201]				Use steel shuttering, reuse all shuttering	Reuse for shuttering, temporary hoardings and general carpentry	Segregate and send to wood recycler	Energy from waste facility	Non-hazardous landfill
Liquids and Oils [most relevant EWC						Segregate for collection by oils recycler	Energy from waste facility	

code]								
TOTAL								

*Note: These figures have been rounded

Performance Indicators

Key Performance Indicators

In order to maximise the benefits to be derived from the SWMP, it is essential that the correct Key Performance Indicators (KPIs) are selected. This will allow the data from the current and future projects to be collected within a database which will enable improved waste generation projections to be calculated. This will allow the Client and Principal Contractor to recognise good practice and areas where process improvements can be made.

Listed below is a selection of KPIs that could be used:

(NOTE: these KPIs can be calculated using either m^3 or tonnes)

Waste Generation:

- m^3 per £100,000 of project value
- m^3 per $100m^2$ of floor space
- m^3 per project area (m^2)

Recycling and recovery rates:

- % of total waste reused on-site
- % of total waste reused off-site
- % of total waste recycled on-site
- % of total waste recycled off-site

Diversion of Waste from Landfill

- As a % of total waste

Segregation Rates

- Total segregation

Cost of Waste

- Waste cost per £100,000 of project cost
- Waste cost per $100m^2$ of floor area
- Waste cost per project area (m^2)

Use of reused and recycled materials (within the construction phase)

- Recycled content by material value – recycled content toolkit and guidance available at http://rctoolkit.wrap.org.uk
- Recycled content by volume as a %

Duty of Care

Record Keeping

Whenever waste is removed from the site, the Principal Contractor must record within the SWMP:

3. (a) the identity of the person removing the waste;
4. (b) the types of waste removed; and
5. (c) the site that the waste is being taken to.

Table 8.1 - Duty of care information

Waste Management Contractor		**Waste Carriers Licence No.**	**Types of waste removed**	**Site that the waste is being taken to**		
Name	**Address**			**Name and type** (Landfill, Transfer Station etc.)	**Location**	**Environmental Permit No.**
Hazardous Waste Management Contractor		**Hazardous Waste Registration No.**	**Types of waste removed**	**Site that the waste is being taken to**		
Name	**Address**			**Name and type** (Landfill, Transfer Station etc.)	**Location**	**Environmental Permit No.**

Free web-based tool to locate the nearest most suitable waste management site in order to reduce transport of waste: http://www.bremap.co.uk/

Waste Management Recording

Waste Removal

Details of all wastes removed from the site should be entered below.

Table 9.1 – Waste generation recording

Waste		Total quantities generated		Reused, Recycled, Recovered		Disposal		Difference	Reason for variance
Type	Material	Estimated (tonne)	Actual (tonne)	Estimated (tonne)	Actual (tonne)	Estimated (tonne)	Actual (tonne)	(+/-)	
Inert									
Non-hazardous									
Hazardous									

On-going Review

Record Keeping

A record of all SWMP review meetings should be recorded in this section.

Table 10.1 - On-going Review

Date	Name	Summary / Action carried out

Completion Review

This section must not be completed until the project has ended. It must be filled in by the Principal Contractor within three months of completion of the project:

I confirm that the SWMP has been undertaken in line with the regulations and has been monitored and updated on a regular basis

Signature	
Print name	
Date	

This stage is designed to help you evaluate the success of your SWMP, and to identify key 'lessons learnt' to use on your future projects, helping you to strive for continual improvement.

Explanation of any deviation from the SWMP:

Waste forecasts exceeded: Waste forecasts not reached:

How successful do you believe the implementation of the SWMP was:

Estimate of cost savings achieved: £

Action(s) planned for next project:

AYLESBURYNOW

Planning Application for
the Aylesbury Estate Regeneration