125 Shaftesbury Avenue

Site Waste Management Plan

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This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 and BS OHSAS 18001:2007)

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Comments

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1. Introduction

1.1 The Brief

This design stage Site Waste Management Plan (SWMP) was prepared by Waterman Infrastructure & Environment (WIE) on behalf of Almacantar Shaftesbury S.á.r.l, (the 'Applicant') to accompany a planning application for the refurbishment and extension of 125 Shaftesbury Avenue (the 'Site'). The proposals (the 'Development') comprise remodelling, refurbishing and extension of the existing building on the Site to provide flexible A1 to A3 retail floorspace and Use Class B1 office floorspace on the upper levels. The proposals would increase the height of the existing building from ground plus 9 to ground plus 11 storeys, albeit the 11th storey is significantly smaller when compared to the 10th storey.

The adoption of good practice waste minimisation and management (WMM) on construction projects can contribute to the achievement of broader sustainable development objectives. The preparation of a SWMP in the early stages of a project can yield cost savings through the more efficient use of resources, hence reducing the cost of materials and volumes of waste and the associated costs of disposal. The management of the procurement process and good materials storage can also minimise waste during the build. The early identification of the key waste streams provides one opportunity to identify possible options for reuse, recycling and recovery in preference to disposal with further potential cost savings.

This document identifies the key design stage waste minimisation commitments that have been made to date, and identifies key roles and responsibilities for the development and management of the SWMP during later stages of the Development.

1.2 Scope of Report

The purpose of this SWMP is to provide a design stage document to be submitted to appropriate stakeholders that outlines the aspirations and strategy to be implemented throughout the construction phase of the Development.

It outlines the processes to be undertaken, and recommends suitable management tools and templates that can be utilised once construction of the Development commences.

The SWMP also highlights the commitments and targets the design team must deliver to ensure that waste arisings are minimised and that site activities are compliant with legislative requirements.

1.3 Assumption and Limitations

For the purposes of this design stage SWMP, the following assumptions and limitations apply:

- the content of this SWMP is based on the plans submitted as part of the planning application for the Development; and
- it is assumed that that this SWMP would be reviewed and further developed prior to construction to identify any additional measures to improve the sustainability performance of waste management for the Development.

2. Waste Minimisation and Site Waste Management Plans

2.1 Benefits of Good Practice Waste Management and Minimisation (WMM)

The adoption of good practice WMM on construction projects helps to reduce the significant quantities of construction and excavation waste sent to landfill and achieves the broader objectives of sustainable development.

Some of the key project benefits for undertaking this approach include:

- reducing material and disposal costs through resource efficient design processes, reduced ordering and waste taken to landfill;
- reduced CO_2 emissions;
- meeting planning requirements; and
- complementing other aspects of sustainable design.

Good WMM practice should follow the principles of the waste hierarchy by looking for ways to reduce waste generation and, where this is not possible, reuse and recycle. Waste minimisation includes a range of straightforward methods to 'design-out' waste from a project and limit waste arising during the construction phase. Waste management involves identifying potential waste streams, setting target recovery rates and managing the process to ensure these targets are met.

Fully benefiting from good practice WMM on a project means adopting its principles at the earliest possible stage, preferably mandated by the Applicant through procurement requirements.

SWMPs provide a structure for systematic waste management from the early stages of design to the completion of construction. SWMPs must describe the types of waste expected to be produced during demolition and construction, and the actions proposed for the disposal of such waste, including recycling and other appropriate methods. Estimated quantities and waste management actions must be identified for each waste type likely to be produced. SWMPs must also contain declarations from the Applicant and Principal Contractor that they would take all reasonable steps to ensure that:

- all waste from a site is dealt with in accordance with the Duty of Care Regulations, 2003;
- materials would be handled efficiently; and
- waste would be managed appropriately.

2.2 Sources of Guidance

Further non-statutory guidance is summarised below:

Defra Non Statutory Guidance for Site Waste Management Plans 2008[1]

Whilst the Site Waste Management Regulations (2008) were repealed in 2013, the Government recognises that the guidance contained within this document is a useful tool to identify cost savings and to reduce waste. The guidance is still therefore largely relevant.

This guidance is for anyone planning and / or carrying out construction work and for officials monitoring compliance with SWMPs. It explains the purpose behind the plans, and how, by completing one, construction project costs can be significantly cut. It also demonstrates that SWMPs are only part of the story; that by addressing materials resource efficiency at the earliest stage in the design process savings can be maximised and construction made more sustainable.

1 DEFRA, 2008. Non-statutory guidance for site waste management plans.

Building Research Establishment SMARTWaste Plan[2]

The Building Research Establishment (BRE) developed the SMARTWaste Plan. This is a free tool used to help clients and contractors prepare, implement and review SWMPs. It can also be used to meet the BREEAM mandatory requirements for waste monitoring during development.

Waste Resources Action Programme Site Waste Management Plan Guidance and NetWaste Tool[3]

The Waste Resources Action Programme (WRAP) has published a series of guidance notes and free online tools to assist with the management and development of SWMPs and more generally WMM. Of particular note are:

- setting a Requirement for Waste Minimisation and Management, Procurement Guidance for Construction Series[4]; and
- achieving Good Practice Waste Minimisation and Management, Practical solutions for Sustainable Construction[5].

[2] www.smartwaste.co.uk/
[3] www.wrap.org.uk/construction (accessed 23/06/15)
[4] WRAP, Setting a Requirement for Waste Minimisation and Management, Procurement Guidance for Construction
[5] WRAP, Achieving Good Practice Waste Minimisation and Management, Practical solutions for Sustainable Construction

3. Proposed Development Details

3.1 Site Location

The Site is located at 125 Shaftesbury Avenue within the administrative boundary of the London Borough of Camden (LBC). The Site is centred on National Grid reference 529930 181120 and occupies an area of approximately 0.354ha.

The Site comprises a ground plus nine storey building and is currently occupied by office and retail spaces. Various retail uses are located at the basement mezzanine and ground floor levels, with office use located on the first to ninth floor levels. The Site is bounded to the north by Phoenix Street, to the east by Stacey Street, to the south by Shaftesbury Avenue and to the west by Charing Cross Road.

The Development comprises remodelling, refurbishing and extending the existing building on the Site to provide enhanced retail and office entrances at ground floor level with improved and additional office floorspace on the upper levels. The existing basement would be retained but reconfigured as part of the Development. Some foundation ground works would be required, associated with the construction of a new core to facilitate the construction of two additional storeys. The existing building would be extended from ground plus nine (64.32m AOD) to ground plus 11 storeys (70.09m AOD). The existing building footprint would also be extended, along the Stacey Street façade and the south side of the building.

Partial Demolition and Construction

The building on the Site would be stripped back to the existing structure. This would include the removal and replacement of the Mechanical and Electrical (M&E) plant. The façades would also be removed as part of the partial demolition works and replaced with a modern and energy efficient design.

The Development would include changes to the core configuration and superstructure frame. Extensions would be made to the existing superstructure floor plates below level 8, and new superstructure floor plates would be constructed on the upper 4 levels of the building (floor level 8 to roof). Piling and new foundations would be constructed at basement level for the new core configuration and superstructure frame.

Efforts would be made to ensure the most efficient construction programme to minimise adverse environmental effects, including waste arisings, as far as possible.

The fit-out stage of the Development would incorporate the installation of block-work walls, finishes, plant and services distribution, and would commence once the reconfiguration of the external cladding and façades of the Development is progressed sufficiently to provide protection to the internal environment.

4. Estimated Waste Arisings

4.1 Demolition

As stated above, as part of the Development, the building on the Site would be stripped back to the existing structure. Using the WRAP Net Waste Tool[6] it is estimated that the demolition waste arising would consist of approximately 60% concrete, 10% ferrous waste, 10% masonry and 10% aggregates. Other waste materials would likely comprise small volumes of timber, glass, plasterboard, slate and non-ferrous material. It is anticipated that the existing building was constructed as a steel frame with elements encased in concrete and clad in brickwork. The slabs are expected to be of a reinforced concrete over clay pot void formers or similar construction.

The demolished waste generated from the Site would be carefully managed to maximise opportunities for reuse on and off the Site.

4.2 Construction

The generation of waste would occur at various stages during the construction phase, including construction of the new core configuration, extensions to the superstructure floor plates and construction of new superstructure floor plates. Following a number of audits, the Building Research Establishment (BRE) has developed a broad guide for waste generated during construction works[7]. It states that, as a broad guide, approximately 18.1m^3 of waste is generated in the construction of 100m^2 of floor space for office buildings. **Table 1** outlines the estimated waste generated during the construction of the Development.

Table 1: Estimate of Waste Arising during Construction of the Development

Land Use*	Floor Area of the proposed Development (GIA m^2)*	BRE Average m^3/100m^2	Waste Generated (m^3)
Office (B1)	9,683	18.1	**1,752.6**

Notes * The ancillary and plant floor areas have not been included within this waste generation calculation

Using this BRE broad indicator, the estimated construction waste from the Development is approximately 1,753m^3, on the basis of 9,683m^2 Gross Internal Area (GIA) of additional proposed office floor space.

The waste arisings for the construction phase would comprise a variety of different types and classifications. These need to be identified and individual waste types estimated by volume or weight. Wastes are either hazardous or non-hazardous, with inert waste being a subset of non-hazardous. From this, the quantum of each type of waste to be re-used, recycled or recovered off Site must be calculated. The totals of the various wastes to be managed can then be calculated for the works.

[6] http://dowtb.wrap.org.uk/ProjectProfileHousing.aspx (accessed 23/06/15)
[7] BRE, May 2012, Smart Waste, The latest BRE bench marking data, BRE

5. Waste Minimisation and Material Resource Efficiency

Given the current stage of the Development, it is recognised that there is an opportunity to reduce the use of natural resources through the detailed design processes, procurement and construction.

Design and Specification

Early consideration has been given to achieving the following as part of the design:

- the use of modern methods of construction;
- maximising the use of pre-fabricated materials and use of standard sized materials where feasible;
- use recyclable materials rather than non-recyclable materials, where available; and
- reuse of excavated materials on the Site.

Procurement

The Applicant would ensure that the Principal Contractor is aware of appropriate measures required to comply with the SWMP through the tendering and contract processes. The Applicant would also ensure that drawings are adequately specified and dimensioned to ensure that accurate quantities of materials can be ordered.

Communication with suppliers would be undertaken to:

- reduce over-ordering;
- specify materials to be delivered with minimum packaging and seek recyclable packaging;
- return reusable packaging to the supplier; and
- return surplus materials to supplier e.g. plasterboard.

Construction

Prior to construction the Applicant / Principal Contractor would develop a detailed construction phase SMWP that:

- identifies likely hazardous waste and procedures for management;
- identifies registered waste carriers, and authorised recycling facilities and disposal contractors in the vicinity of the Site, and takes appropriate steps to check their authorisation is valid; and
- ensures that detailed procedures are in place for the transfer of waste to registered carriers and that all Contractors, including sub-contractors and their personnel, are fully aware of those procedures.

The Applicant would ensure that the Principal Contractor:

- identifies who would be responsible for waste management before enabling works get underway, and ensure that they have the necessary training and authority to ensure compliance;
- stores waste in accordance with relevant legislation, notably the Environmental Protection (Duty of Care) Regulations[8];
- ensures that waste collection is undertaken only by registered waste carriers and waste materials would only be deposited at authorised waste treatment and disposal sites;
- ensures that when any waste is removed from Site the following information is recorded:
  - the identity of the person removing the waste;
  - the relevant waste carrier registration number;
  - a written description of the waste; and

[8] Environmental Protection (Duty of Care) Regulations, 1991 (as amended)

  - the destination of the waste.
- reuses waste material within the Site where possible;
- ensures that all staff, including sub-contractors, would be trained to understand the requirements of the SWMP;
- ensures that waste segregation on-site would be undertaken as appropriate following assessment of waste types and quantities to arise at various stages of the project and the local waste reprocessing market;
- sorts and recycles construction waste on-site into as many of the following categories, as possible / practical;
  - ceramics;
  - inert;
  - metals;
  - packaging;
  - plastic;
  - concrete;
  - insulation;
  - miscellaneous;
  - plaster / cement;
  - timber; and
  - chemicals and oils.
- ensures that on-site segregation receptacles are marked, clearly signposted and easily accessible;
- ensures that on-site segregation is considered in the first instance. If this is not possible, off-site sorting of mixed wastes should be undertaken in preference to disposal; and
- adopts a 'quick wins' approach where particular waste streams are targeted that would have most impact on cost and moving from disposal to recycling / recovery. Wastes such as timber (from formwork) and plasterboard off cuts are often chosen.

On any project there are 'quick wins' that, if achieved, can offer significant cost savings to the project. A waste recovery quick win as defined by WRAP is "*an improvement in recovery (reuse or recycling) for a specific construction waste material which will deliver a higher than standard practice recovery without increasing costs preferably with a cost saving*."

During construction, the Principal Contractor would arrange audits to ensure that waste actually reaches its planned destination and to identify the amounts of waste reused, recycled and sent to landfill against targets. The Principal Contractor would also seek to establish strong partnership with a waste management contractor from the outset to enable fast flow of data returns after collection.

At least every six months during construction works the Principal Contractor would review the plan, record the types, quantities and disposal method of all wastes, and subsequently update the plan as necessary.

5.1 Objectives and Targets

Prior to the commencement of construction works, waste targets would be set by the Principal Contractor.

During the setting of waste targets, due consideration would be given to best practice and good practice. WRAP's guidance document 'Achieving Good Practice Waste Minimisation and Management' provides a table of recovery rates that has been adapted and presented in **Table 2**.

These rates would be used as a benchmark for setting targets in the project. The Good Practice Quick Wins percentages would be adopted as the minimum target required for the project.

Table 2: Standard, Good and Best Practice Recovery Rates by Material

Material	Standard Recovery %	Good Practice 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**

**This is a required recovery target for the type of WEEE likely to be produced from construction Sites e.g. lighting (the WEEE regulations Jan 2007)*

*** This cannot be 100% as much hazardous waste (e.g. asbestos) must be landfilled.*

Source: adapted from 'Achieving good Practice Waste Minimisation and Management', WRAP

6. Key Roles and Responsibilities

Table 3 provides an outline of the responsibilities each party has for the development and monitoring of the SWMP during the phases of Development, following the design phase i.e. during construction works.

Table 3: Key Personnel

Organisation	Timeframe	Responsibilities
The Applicant:		The overriding responsibility for ensuring that a SWMP is prepared and implemented lies with the Developer. However, on appointment of a Principal Contractor, responsibility is shared.
	Pre-construction	• Ensure SWMP is prepared before any construction work begins and ensure it is clear and comprehensive. • Appoint Principal Contractor, provide a copy of this draft design stage SWMP to the Contractor, required the Contractor to update the SWMP, and direct Contractor to monitor and update SWMP, and ensure waste management tasks are included in contracts.
	During construction	**Required:** • Alongside Principal Contractor, responsible for updating SWMP as project progresses and ensuring effective implementation. **Recommended:** • Pay waste contractors only when evidence of delivery at an authorised site is provided. • Undertake periodic checks and audits.
	Post Construction	**Required:** • Keep a copy of SWMP for two years. **Recommended:** Together with Principal Contractor undertake a review of waste arisings and disposal method against estimated waste arisings and identify strengths and weaknesses of waste management method, and explore opportunities for future improvement.
Author: Waterman Infrastructure & Environment	**Pre-construction**	• Preparation of Initial Outline Design Stage SWMP.
	Construction / Post Construction	**Required:** Not Applicable - Responsibility for updating and implementation should lie with the Applicant / Principal Contractor.
Principal Contractor	**Pre-construction**	• Review and update SWMP.

Organisation	Timeframe	Responsibilities
(To be confirmed)	**During construction**	• Ensure SWMP is kept at either the site office, or a central location, and ensure it is available to all contractors and that its location is known. • Ensure subcontractors adhere to SWMP. • Provide induction and training to all workers, and brief sub-consultants. • Make and maintain arrangements to ensure cooperation and develop and promote sustainable waste management and monitoring of effectiveness. • Ensure waste produced during construction is reused, recycled or recovered. • Review and update plan to record all waste removed from Site: – Identity of person removing waste and the waste carrier registration number. – Copy of written description of waste. – The Site the waste is being taken to and whether it is licensed or exempt. • Update the plan (a minimum of every 6 months and recommended every 3 months) to record types and quantities of waste that is: i. Reused (whether on or off-site). ii. Recycled (whether on or off-site). iii. Sent for recovery (physical sorting, chemical biological treatment, composting, incineration with energy and remedial treatment of soil) (whether on or off-site). iv. Landfilled. v. Disposed of by other means (including burning without recovery or where quantities of mixed waste that are landfilled, reused, recycled or recovered are not known). **Recommended:** Review waste quantities against estimated waste arisings every 3 months.
	Post Construction	**Required:** Within three months the following would be undertaken: • Confirmation that plan has been monitored and updated as required. • Explanation of differences between estimated waste arisings and likely destination of waste and actual performance. • An estimate of likely cost savings that have been achieved by implementing the SWMP. A copy of SWMP would be kept for 2 years at place of work or Site office. **Recommended:** • Undertake review of waste arisings and disposal method against estimated waste and arisings and identify strengths and weaknesses of waste management method, and opportunities for future improvement.

7. Training and Communication

It is important that all relevant staff and contractors receive adequate training to enable them to undertake responsibilities to stay compliant with the SWMP. **Table 4** below provides a template which assists in identifying relevant training and communication activities, and how to record that these have been undertaken.

Table 4: Summary of Training Record

Task	Details	Responsibility
Ensure all staff and subcontractors (where relevant) are briefed on waste management practices and the SWMP as part of induction and ensure attendance.		
Place information boards on waste management practices in accessible locations (e.g. in the canteen).		
Distribute a copy of the SWMP to all Key Personnel each time it is updated including where relevant: • CDM Co-ordinator; • Client; • Site Manager; and • Subcontractor(s).		
Undertake inspections and independent audits to ensure waste management is being undertaken in accordance with legislation and to identify if targets are being met.		
Provide update bulletins outlining results of audits and performance against reuse and recycling targets.		
Provide appropriate training and ensure it is up to date.		

8. Waste Management Records

Records would be kept of all waste removed from the Site.

A review of the SWMP by the Principal Contractor would be undertaken as required, but at least every six months, to ensure it meets the needs of the project with regards to waste minimisation and recycling rates. The quantities of waste reused, recycled, recovered and landfilled or incinerated would be noted and where relevant a comparison would be made with estimated waste arisings. This provides an opportunity for targets to be adjusted and where possible improved, so that improved standards of waste management practice can be achieved

UK and Ireland Office Locations