Manchester Business School Redevelopment

Waste Management Strategy

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Appendix 1 – Waste Management Plans

1.0 Introduction

As Manchester Business School (MBS) continues to grow and strives to reach its ambitions of being a world-renowned business school, it needs the facilities to match. The MBS campus is currently based in five buildings that span Oxford Road, with the main buildings on Booth Street West. The buildings here date from the 1970s and house lecture and conference suites, a restaurant and a 101- room accommodation facility, as well as MBS's postgraduate and executive education services.

Phase 1 of the development comprises of Manchester Business School's Executive Education Centre and a new 4* hotel on the site of The University of Manchester's car park located on the corner of Booth Street West and Higher Cambridge Street. Planning Permission for this phase has been granted in April 2013.

Phase 2 of the development comprises the remodelling of existing MBS buildings known as MBS West, Harold Hankins, Devonshire House, as well as the Precinct Centre to provide new teaching and administrative facilities that better suit the needs of MBS in the 21st century. This would include the addition of a new Learning Library and Enterprise Zone to provide a state-of-the-art facility for MBS's students. In addition, the development will see remodelled to the retail shops to replace the outdated precinct centre located at 2nd floor or the building.

This Waste Management Strategy summarises how waste will be managed during construction and operation of the buildings and how operationally the strategy will be delivered on completion of **Phase 2** of the development.

This statement has been prepared to support the planning application and summarises the aspirations for the project at this time.

This document should be read in conjunction with all other reports and information submitted in respect of the planning application.

2.0 Operational Waste Management

The operational waste management for the project can be defined into two distinct areas: -

1. Business School building facilities
2. Retail unit facilities

The building has different uses and so there will need to be a coordinated approach to operational waste disposal.

2.1 Business School Facilities and Waste Disposal

Managing large volumes of waste is a constant challenge and the University has invested significantly in the provision of recycling facilities and in encouraging and embedding behavioural change to the users of buildings in order for quantities of waste to landfill to be reduced.

To achieve this, the proposal is to integrate recycling facilities within the building design to promote recycling by its building users. It will be visible and easily accessible to staff and students.

2.1.1 Internal Recycling Facilities/provision

Internally, the development will be designed in a way that encourages occupants to recycle waste in their work areas, as is already happening in other University campus buildings.

Internal space will be designed into appropriate areas of the development to accommodate waste/recycling bins of an appropriate size to allow for the segregation of the following 4 waste streams:

- plastic bottles
- cans
- paper
- general (non recyclable) waste

In line with the University's Carbon Management Plan, it is the policy that new developments are not provided with individual waste/office bins, but are instead provided with recycling points so that they operate in the same manner as existing University "bin the bin" schemes.



Fig 1. Example of recycling point within building

2.1.2 Location of Recycle Points

The advice of the University Waste Co-ordinator has been sought to identify suitable locations for waste/recycling points in areas such as kitchens, breakout and communal areas and general teaching spaces.

There will be a number of different waste/recycling bins for the collection of different materials and these will depend on the location/space that is available.

However, in the majority of instances, waste collection will be by means of receptacles that are of 55 litre capacity (dimensions H:660mm, D:525mm, and W:305mm), with taller versions of the same bin at H:870mm (87 litre capacity). In other areas where slimmer bins are required, bins of the following size are used: H:1000mm, D:320 Width:1060 (equivalent to 4 bins side by side).

In line with the University's commitment to the development of sustainable waste management practices and the principles of "reduce, re-use and recycle" the

proposed development seeks to adopt the strategies developed over the wider campus.



Fig 2. Location of recycling point within building (typical floor)

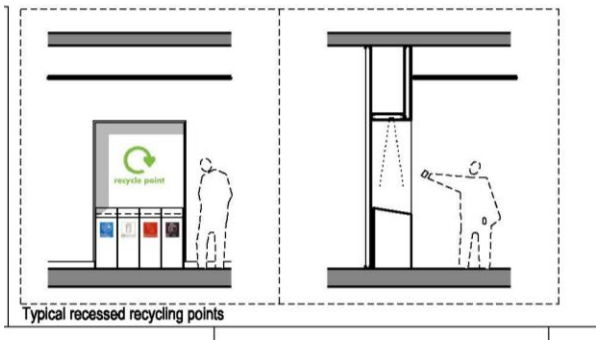

Fig 3. Typical recycle bin (subject to further design)

Please refer to **Appendix 1** - Waste Management Plans which show locations of internal recycling stations on plan and the main waste collection point store.

2.1.3 External Waste Collection and Recycling Facilities

The consolidation of all the current MBS buildings into one will rationalise the strategy for waste collection and it is proposed to enhance the existing limited facilities provided within the undercroft service area that serve both the retail units and the MBS building. The design will see the separation of the MBS and retail waste by providing dedicated waste areas for each use ensuring that wastes volume figures can be accurate traced and recorded.

For MBS there will be a dedicated secure recycling and waste store (blue hatch area) that will be used by the MBS building only. The current compactor is to be retained in its current location, however, when this unit reaches its usable life expectancy it will be removed and replaced by a cardboard bailer which will be housed within the recycling compound.

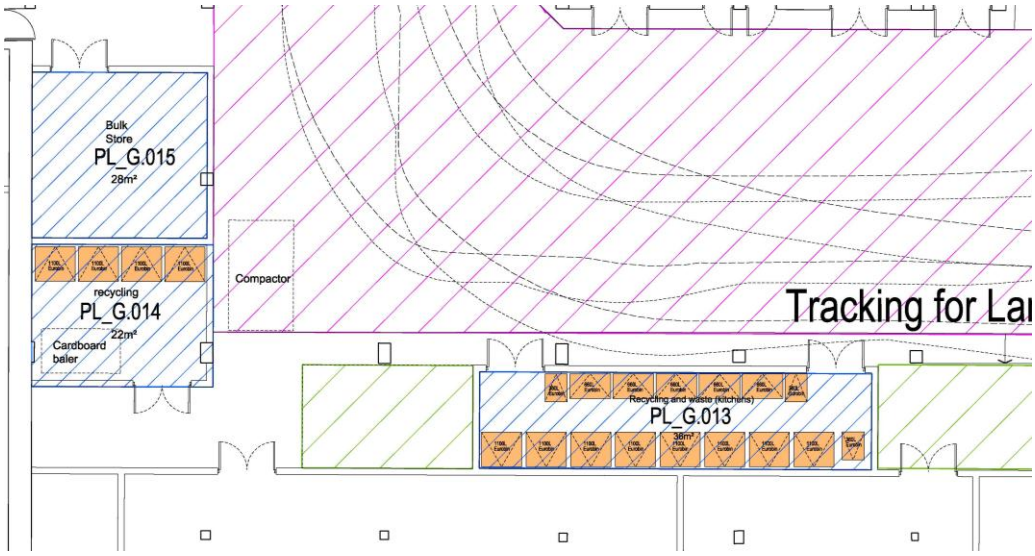

Fig.4 Extract from drawing 01(52)A100 showing MBS dedicated waste and recycling stores to ground floor service yard (Blue Hatch)

The design has taken into account the requirement to move/ lift the current compactor and bins and as such clear maximum lifting heights have been set.

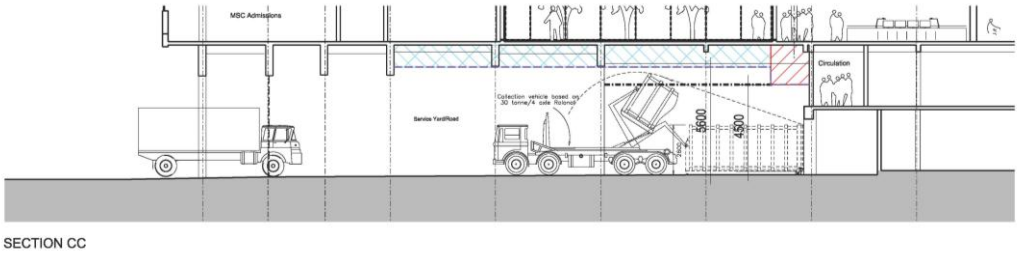

Fig.5 Extract from drawing showing compactor lifting within existing structure

A purpose built compound for 1100ltr euro bins has also been provided within the service area and this replaces the ad-hoc arrangement currently whereby bins are positioned in various zones. The area of this store not only is sufficient to meet the current waste collection timetable but also incorporates expansion space for added flexibility and possible future changes in the UoM waste strategy.

The waste stores will be constructed of impervious materials and will be easily kept clean. A suitable water supply will be located nearby the stores for easy wash down as needed.

2.1.4 Number and Capacity of Bins Proposed

The waste provision provided in this strategy has been agreed with The University's Waste Coordinator and is based on current and projected figures
It is estimated that 2 tonnes of waste will be generated per week which equates to 6/7 euro bin lifts per day.

Figure 6 shows the provision and capacity of the bins proposed for the development: -

General Waste (Mixed)		
Receptacle Size	**No. Proposed**	**Total Litres**
1100ltr	8 No	8800 ltrs
660ltr	5 No	3300 ltrs
360ltr	3 No	1080 ltrs
Total Provision	**16No**	**13180 ltrs**
Recycled Waste (plastic, card, metal, paper, glass)		
1100ltr	4 No	4400 ltrs
Cardboard Bailer	1 No	TBC
Total Provision	**5 No**	**4400 ltrs**

Fig.6 Table to show number of bins proposed for MBS waste collection (exact mix to be determined)

2.1.5 Vehicle Tracking and Waste Collection Frequency

Waste collections for MBS will generally be daily – Monday to Friday before 7am at no more than 5 mins for each collection using the University's approved waste contractor.

Refer to plan A0(52)A030 in Appendix 1 which shows the vehicular tracking within the service area of the building.

2.2 Retail Units and Waste Disposal

As part of the development it is intended to redevelop the existing retail precinct to create new retail premises that fit with the new redevelopment plans. It is proposed to create 10 retail units along Oxford Road and southern elevations of the MBS building.

2.2.1 Internal Recycling Facilities/provision

It is envisaged that each leasing company will have their own Company Policy on recycling. At this stage it is not know who the retail company will be.

2.2.2 Location of Recycle Points

It is envisaged that each leasing company will have their own Company Policy on recycling. At this stage it is not known who the retail company will be.

2.2.3 External Waste Collection and Recycling Facilities

It is proposed that dedicated waste stores be provided to house the bins and goods cages for the retail units.

The introduction of these stores not only ensure all waste is contained in a single space managed by the retailer but also limits any contamination of the UoM / MBS waste that is collected. Currently as waste is not separated it is difficult to benchmark waste generation figures in the development. All the storage areas would also be provided with bib taps to ensure cleaning of the bins, structure and floors can be done.

Retailers will be provided with an area in the service yard to store their bins to enable their waste disposal companies to undertake regular collections of waste. Retail customers will have their own contracts (separate to The University).

The waste stores will be constructed of steel framed cages and will be easily kept clean. A suitable water supply will be located nearby the stores for easy wash down as needed.

Access to waste collection areas will be via the same vehicular route into the service yard as MBS.

2.2.4 Number and Capacity of Bins Proposed

The precise number of bins will be determined when a retail occupier has signed up to a commercial lease. At this stage it is envisaged space could be made available for 2 no. 1100ltr Euro bins per unit. Currently there are 10 retail units being created.

2.2.5 Vehicle Tracking and Waste Collection Frequency

Waste collections by each retailer are generally daily – Monday to Friday (including Saturdays) before 7am at no more than 5 mins for each collection.

Vehicles will use the same access into the service yard as existing.

Refer to plan A0(52)A030 in **Appendix 1** which shows the vehicular tracking within the service area of the building.

3.0 Management of Construction Waste Materials

This section of the strategy details the approach, methodology and assessment criteria for managing the waste arising from the demolition and construction phase of the project. It provides guidance on good site practice and mitigation measures to reduce the amount of waste generated during the planned program of works.

3.1 Contractor Management Principles

The main contractor will be required to minimise any adverse impacts that construction waste has on the environment and implement best practice in waste minimisation/management as detailed in the Waste and Resources Action Programme. This shall be achieved through engagement with the University of Manchester, the selection of appropriate construction techniques and operational methods, and selection of appropriate sub-contractors.

3.2 Site Waste Management Plan

A Site Waste Management Plan (SWMP) will be developed for the detailed design stage of the project which will be reviewed and updated as the project progresses. This will act as a tool to inform the on-going design process and address waste at source.

The SWMP will provide information such as potential waste streams and their likely quantity, to enable strategic decisions to be made regarding the design

and supply chain. This will allow waste production during the different stages of construction to be monitored and controlled.

At the start of the detailed design stage of the project, as part of the SWMP, a complete analysis of the operations to be undertaken and materials to be used will be completed. This will enable identification of the potential waste that will be generated. A strategy for the removal of this waste can then be developed. This might include the provision of separate skips for different waste products, to allow easier recycling. A site logistics plan will be developed to identify:

- allocated areas for waste segregation;
- adequate storage;
- a schedule of just in time deliveries so that materials are used almost straight away for the current task - this allows a reduction in the need for overall packaging as products don't need to be protected against the elements;
- on site logistics to avoid double handling and therefore minimizing damage;
- offloading requirements to avoid damage;
- protection measures whilst in storage;
- quality checks on receipt of materials to eliminate accepting incorrect deliveries quantities, specification or damaged goods;
- site demand smoothing to reduce bottle necks in material distribution and storage; and
- security to prevent loss, theft or vandalism.

3.3 Waste Produced During Construction Projects

The University have signed up to the Halving Waste to Landfill Construction Commitment with WRAP (Waste and Resources Action Programme) which is a voluntary agreement through which the University has developed measures and set targets to reduce the amount of construction, demolition and excavation waste sent to landfill as a result of construction activities.

As such, the University has a "Code of Practice relating to Construction Waste" which all contractors are required to comply with, and in particular, the following objectives/targets:

- That during the demolition of existing buildings that a Demolition Recovery Index (DRI) of at least 80% is adopted, with the aim of exceeding 90%2.
- That new buildings/refurbishments are designed in such a way that wastage during the construction process is minimised and resources are used efficiently, and that wherever feasible, best practice design is employed as detailed in the relevant WRAP guidance.
- That any construction waste is managed as sustainably and achieves a construction waste recovery/recycling rate of at least 75% by weight as a minimum, with the aim of exceeding a rate of 80% recovery/recycling.
- That at least 15% of the total value of construction materials used should derive from recycled and reused content in the products and materials selected.

3.4 Reduction, Reuse, Recycle

The approach to be taken is based upon the implementation of reduction, reuse and recycling strategies. The various elements of each of these strategies in relation to construction waste are set out below.

Reduction

Implement modern construction techniques that minimise resource requirements.
Standardisation to minimise waste.
Lean design solutions.
Promote off site fabrication.
Plan for waste early in the design stage.
Target main waste streams - concentrate on targeting activities that contribute to high levels of wastage.
Avoid damaging and failing to utilise materials by 'just in time deliveries' and by accurate measurement.
Adequate protection of materials when not in use or whilst in temporary state.

Re-use

Ensure separation of materials is achieved on site when possible.

Ensure excess materials are retained for future use.

Ensure salvageable resources are retained for future use or resale where possible.

Recycle

Promote materials with high recycled content.

Ensure segregation of waste on site.

Encourage the efforts of recycling ‘take back schemes’ by manufacturers.

Remediate rather than dispose.

APPENDIX 1 – WASTE MANAGEMENT PLANS