

 Manchester Metropolitan University MMU Environmental Management System	Ref	WDG
	Version	5
	Date	7/11/2018
	Author	Waste and Recycling Manager
	Approved by	Head of Environmental Sustainability
Waste and Recycling Design Guide		

1. Introduction and Purpose

- I.1. This guide introduces the waste and recycling plan for MMU and the specific requirements for space and containment for both internal and external waste and recycling.
- I.2. Following this design brief at the earliest possible stage will prevent waste considerations being neglected during the design process.
- I.3. It is to be used as guidance for consultant design architects and minor and capital works project managers.
- I.4. Focus is on the waste plan and specification for operational requirements such as internal and external recycling bins.
- I.5. It does not include detail regarding material use or construction commitments to reduce waste during the design and build stages of a new building. Please refer to WRAP guidance – Designing Out Waste.
- I.6. The overall aim for waste and recycling is to follow the ‘3 Rs’ waste hierarchy – Reduce-Reuse-Recycle.
- I.7. The provision of waste storage is critical to the operation and use of a building and consistency in approach with signage and bin type, across all buildings, new and existing, provides a clear message to students and staff.

2. Detail – Waste Plan

The waste plan for MMU has been to follow a phased approach over the last 5 years (2012 -2017) to achieve the following key solutions:

- Establish investment for internal recycling facilities, delivered in 2011/12.
- Provide electric tow vehicles and compaction of general waste as an in-house operation, delivered in 2014/15.

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- Identify additional recycling streams and cost savings to budget – Addition of food waste segregation in halls, catering and staff kitchen areas 2015/16.
- Secure a cost-effective waste contract with rebates on clean-sorted recycle via OJUE, delivered in 2016/17.
- Continue to consolidate non-recyclable waste collections via on-site compaction - 2015/16 onwards.

2.1. The waste plan supports the strategic waste and recycling KPIs, which aim to increase recycling across all areas of MMU, drive down cost and ensure legal compliance, see Table 1.

Table 1: Strategic Targets and KPIs (2017)

Environmental Sustainability Policy Area		Waste and Resource Management	
1	Objective	Increase reuse and recycling	
	Target	60% reuse and recycling	Target Date 2020-2021
2	Objective	Divert waste from landfill (excluding waste from capital developments)	
	Target	Maintain 95% waste diversion	Target Date Maintain 95% waste diversion
3	Objective	Divert waste from landfill (including waste generated from capital developments)	
	Target	Maintain 85% waste diversion	Target Date Maintain 85% waste diversion

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3. Waste stream containment requirements

- 3.1. Both Residences and Estates areas present different requirements for waste segregation and containment. Estates is mainly office-generated waste, cafes and faculty specific requirements and residences produce a municipal waste stream.
- 3.2. Both Residences and Estates should only be furnished with containers with Manchester Metropolitan logo, waste stream descriptions and iconography (provided by the Environment Team) and there must be no other internal provision for disposing of rubbish or recycling – see Photo 1 entitled ‘Non- MMU container provision/bad practice’ for example.

Estates

- 3.3. The waste plan aim is to provide recycling hubs within each building, which ideally must be integrated into the internal structure of the building at the design phase i.e. via an inglenook or similar to form part of the building and be unobtrusive.
- 3.4. There are two sizes of existing internal bins; this is to provide flexibility where space may be at a premium. The preference is provided by Glasdon (Nexus 100 and Nexus 50). Signage must link with the sustainability branding of the University. All waste and recycling communications and signage was refreshed in August 2017.
- 3.5. Each faculty has to be assessed separately to ensure specific waste containment requirements are provided relevant to the space utilisation.
- 3.6. All staff members will be provided with a desktop recycler. Ref. Photos 1.
- 3.7. No desk bins are to be provided. This is to encourage staff to use the desktop recyclers.
- 3.8. The minimum waste and recycling requirements for staff offices and student teaching areas (in offices and along corridors in open access areas) are as follows:

- Non-recyclable, paper and cardboard, plastic bottle and can = **1 x Hub**

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- Glasdon's are the preference for Hub containers due to design – Ref. Photos I.
- Provided in **a hub of 3 bins, located all together.**

3.9. For all staff kitchens areas: 1 x Hub and food waste caddy.

3.10. For printing areas: paper and card only.

3.11. For café eating areas:

- Front of house – Hub/s and food recycling.
- Back of house – Hubs, food and glass recycling.

3.12. Estates provision depends on the building, bin location and the type of faculty. For example, not all areas are provided with glass recycling. However, one glass bin should be added to the hub in each building reception.

4. Estates location parameters

4.1. The parameters for the location of the recycling hubs are:

- Single occupancy offices are not provided with a recycling hub.
- All recycling hubs to be located in shared access areas.
- 20 meters is the maximum distance a user should have to walk to a recycling hub; (Note: This is a guide only and will be discussed with each individual Architect, and Facilities Manager during the design phase, subject to space requirements in the building design and relevant features within the building e.g. tea & coffee stations).
- None to be located near fire escapes, stairs or lift areas.
- All printing rooms must have provision for a paper recycling bin, with space for plastic bottle and can recycling and non-recyclable waste, depending on requirement, traffic and location.

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- 4.2. Small bins should be avoided where possible as these increase staff costs through being emptied more frequently.
- 4.3. Large pieces of cardboard will be collected and stored by the side of the recycling points and collected daily by local Facilities staff.
- 4.4. Battery containment will be provided through use of side pods connected to Glasdon nexus 100 bins located in the high traffic reception areas.

5. Residences

- 5.1. All residences are to be provided with containment for the 5 main waste streams. Ref. Table 2.
- 5.2. Containment for these recycling streams is to be provided both internally and externally.
- 5.3. Containers must be large enough to provide containment of waste and recycling for the number of students using the kitchen.
- 5.4. Calculations for the above must be made using existing waste data obtained from Manchester Metropolitan Waste and Recycling Manager (Either waste mass Kg/m² or waste mass per person).

Table 2: Waste streams

Residences	Estates
Paper and Cardboard	Paper and Cardboard – all areas
Plastic Bottle and Can	Plastic Bottle and Can – all areas
Non-Recyclable Waste	Non-Recyclable Waste – all areas

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Glass	Glass – Faculty of Science and Engineering / Catering / Chatham
Food	Food – To be provided in all staff kitchens, Café areas and Catering back of house.
Confidential waste	Confidential waste – Consoles provided in post rooms.
Other	Battery's – Pods on the side of Glasdon bins located in reception areas.
	Toner / CDs / WEEE – All collected via the waste and recycling team – no requirement for containers.
	Additional external requirements: small WEEE containers, Florescent tube boxes, Spill kits and other containers will be located in centrally around campus.

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Photos I: Residences, Estates and Non-MMU Container Provision

Residences:





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Estates:



Nexus 100



Nexus 50



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Food Recycling



Battery side pod



Desk Top Recycler



Glass Recycling (Receptions)

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Non-MMU container provision (bad practice)



Bin built into coffee supply unit.

6. External storage requirements

Operational requirements of bin store

- 6.1. Bins must be housed "End on". This is to allow bins to be pulled out with the end handles.
- 6.2. Bin store should be designed to force bins to be stored in a parallel, uniform, organised manner. This could be by wheel guides on the floor or rear mounted guides to ensure bins can only be positioned in the desired orientation.
- 6.3. The roof of the bin store should be tall enough to allow the lid to be fully opened, without needing to remove the bin. This requires a minimum internal clearance of 2400mm.

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- 6.4. Overhead lighting should be provided. Lighting should be operated by means of PIR and LUX sensor and trigger when the bin store is being accessed. The lighting should remain on for at least 3 minutes from last movement and turn off automatically.
- 6.5. External doors should be accessible by users who have limited dexterity, due to use of gloves or other hand restrictions.
- 6.6. All External waste storage areas must be designed to be secured in order to prevent unauthorised access to the waste.
- 6.7. External doors should be designed to be secured in an open position and be prevented from closing unexpectedly in strong winds.
- 6.8. Large labels (A2 or A1) should be installed at the rear above each bin to indicate its contents. These labels should be specified by the Manchester Metropolitan Environment Team. The labels should be designed to be easily changed if damaged or if bins change.
- 6.9. Flooring should be impervious. If concrete is used, it should be covered with a durable resin based paint to allow it to be cleaned and prevent ingress of liquids.
- 6.10. The flooring should be laid such that there is a slight incline towards the inside of the bin store. This is to prevent bins rolling out when wheel locks are disengaged.
- 6.11. The bin store should have a covered roof to keep users dry when depositing waste, and to prevent loose waste being blown away in high winds.
- 6.12. The waste storage area must be appropriately sized for the volume of waste produced in each area. Modelling of waste volumes and storage capacity will be provided by the Waste and Recycling Team for each project.
- 6.13. The storage capacity to hold waste collected from the building must be no less than 2 days. This must be calculated as per 5.4.
- 6.14. Waste storage areas must include the five main waste streams (non-recyclable waste, paper and cardboard, plastic bottle and cans, food and glass recycling).

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6.15. Designated covered areas must be either provided within the basement or; located in a store area outside.

6.16. All waste storage areas must be accessible to the waste contractor and should not be situated more than 20 meters from the area the waste RCV vehicle will park and lift the bins.

7. Litter bin requirements

7.1. External litter bins are to be provided across the public realm.

7.2. Litter bins must be **quad units** to enable the recycling of four separate waste streams:

- Non-Recyclable Waste
- Paper and Cardboard recycling
- Plastic Bottle and Can recycling
- Glass recycling

7.3. All litter bins are to be branded with the Manchester Metropolitan logo, waste stream descriptions and iconography (provided by the Environment Team).

7.4. Litter bins must be RAL 7016: Anthracite Grey in colour.

7.5. All litter bins must be lockable

7.6. Doors should open from the front of the bin. (similar to the design on the Birley Campus).

Photos 2: A & B: Example bin stores (Birley Halls) C: Avoid non contained euros D: Electric vehicle and compactor E: Euro bin F: External recycling public realm (*design to be updated in Spring 2018*)



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A



B



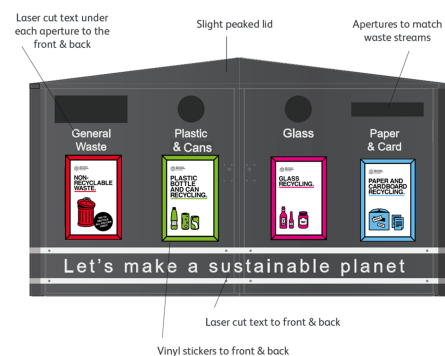
C



D



E



F

8. Compaction units

8.1. Compaction units for general waste will be used to reduce the number of bin lifts required via the waste contractor.

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- 8.2. Provision needs to be made for the location of external compactors associated with the new building, with discussion agreed about the logistics and access for vehicle movements.
- 8.3. Three compactors have been procured for the All Saints Campus (one is currently located in All Saints North and two will be relocated from the Cheshire Campus).
- 8.4. The ideal location for compactor units on All Saints would be
- All Saints North (servicing John Dalton)
 - All Saints Central (servicing MMUBS, All Saints, Library, Ormond, Cavendish and All Saints Student Living) * *subject to road closures*
 - All Saints South (servicing Benzie, Arts and Humanities, Geoffrey Manton and Grosvenor).** *subject to road closures*
- 8.5. Once these parameters have been agreed, provision of an suitable enabling works (hardstanding and power) needs to be included within the external specification to site and power the compactor(s).
- 8.6. The operational use of compactors will be phased according to:
- The finish date of the new buildings;
 - The funding provision for the purchase of an electric vehicle to collect the waste and move it to the compactor location;
 - The provision of staff members to manage the collection, and operate the compactors.
 - The compactors will be used not only for the waste of the building in which they are located, but also for waste from surrounding buildings.

ⁱ WRAP – Designing out waste <http://www.modular.org/marketing/documents/DesigningoutWaste.pdf>

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REASON FOR THE CHANGE
<u>V5 29/10/2018</u> Inclusion of requirement that there must be no other internal provision for disposing of rubbish or recycling than MMU branded containers Clarification that maximum distance building users should be from recycling hub will be discussed in design phase subject to space requirements in the building design and relevant features within the building e.g. tea & coffee stations.