

**Lampwick
New Islington
Waste Strategy
May 2017**



Manchester Life Development
Company

Manchester Life, Lampwick
Recycling and Waste Strategy

Issue | May 2017

This report takes into account the particular
instructions and requirements of our client.

It is not intended for and should not be relied
upon by any third party and no responsibility
is undertaken to any third party.

Job number 235055

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1 Introduction

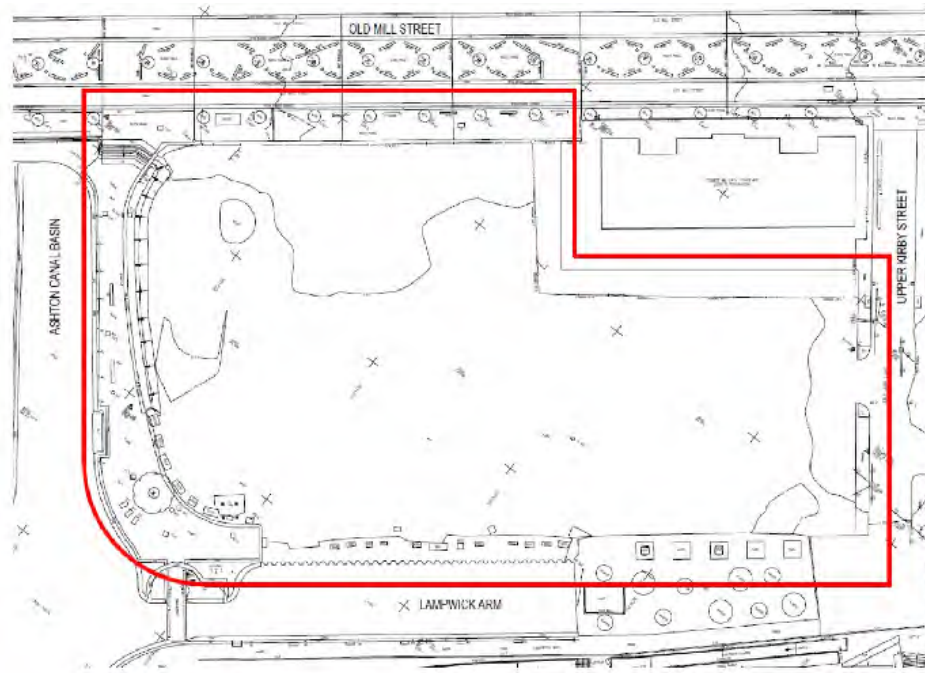
1.1 Context

1. Ove Arup and Partners Ltd (Arup) has been commissioned by Manchester Life Development Company Limited (MLDC) to prepare a Waste Management Strategy to accompany a planning application for the proposed Lampwick development in New Islington, Manchester.
2. This application will be the ninth application submitted by Manchester Life in this area. Planning Permission for residential development at Murrays' Mills and Land at New Union Street was granted by the Local Planning Authority in July 2015. Additionally, Planning Permission was granted in October 2015 for further residential development at the Land at Hood Street site and in December 2015 for the residential development of the Jersey Street site. Most recently, planning permission was granted in June and September 2016 for residential schemes at Blossom Street (Ancoats) and Old Mill Street (New Islington), and applications have been submitted for planning permission on Vesta Street opposite the Lampwick site and also the New Little Mill site in Ancoats.

1.2 Site Description

3. The site is bounded by Upper Kirby Street, Old Mill Street, the Ashton Canal Basin and the Lampwick Canal Arm. Historically the site was occupied by the Former Ancoats Hospital, of which the only remaining feature is the Grade II Ancoats Dispensary. This is located directly adjacent to the northern edge of the site boundary, but falls outside of the scope of this application.
4. The site is currently used as a surface car park accessed from Upper Kirby Street. The site is enclosed by security fencing along the Old Mill Street frontage, with the Ashton Canal Basin forming the western boundary and the Lampwick Canal Arm forming the southern boundary. The eastern boundary of the site is currently unsecured. The existing surfacing consists of areas of hardstanding with limited areas of self-seeded vegetation.

Figure 1 – Site Location



1.3 Description of Development

5. The proposals include 213 residential units, ground floor commercial floorspace, and ancillary amenity space within two blocks with heights ranging from six to ten storeys connected by a five storey link building, car parking provision, hard and soft landscaping, access and servicing and other associated works.

1.4 Scope of this report

6. This Recycling and Waste Strategy Report has been prepared by Arup for the proposed development of the Lampwick Site. It has been developed in collaboration with Manchester City Council (MCC) and waste management company Biffa.
7. This Recycling and Waste Strategy explains how residential and commercial waste and recyclables will be stored, transferred and collected at the proposed development. The strategy has been developed to follow the recycling and waste requirements of MCC¹ *Waste Storage and Collection Guidance*.
8. Commercial units are proposed on the ground floor. In addition small amounts of commercial waste will be generated by the building management team. The configuration of the commercial floorspace is still to be confirmed.
9. Compliance with this Waste Strategy will ensure that there are sufficient waste storage areas across the development to enable residents to segregate their waste

¹ Manchester City Council (2016) GD 04 *Waste Storage and Collection Guidance for New Developments Version 3.00*

and recyclables, and provide appropriate access for refuse collection vehicles (RCVs).

10. The recycling and waste objectives relating to the proposed development are summarised below:
 - Introduce an appropriate collection system for household and commercial waste;
 - Provide adequate storage facilities to enable residents to segregate mixed dry recyclables, paper, organics, general / residual waste and bulky items;
 - Educate household residents on the waste segregation facilities at the development through the homeowner pack;
 - Provide adequate storage facilities to enable the commercial units to segregate recyclables and general waste and potentially organics;
 - Provide adequate storage facilities to enable the building management team to segregate recyclables and general / residual waste;
 - Enable compliance with all relevant requirements;
 - The waste requirements and services of MCC¹; and
 - The Building Regulations².
11. The strategy demonstrates how the proposed development meets the MCC guidance document GD04 and the service requirements of Biffa (see Section 3). In addition it demonstrates how the proposed development will satisfy the Building Regulations (see Section 4).

² HM Government (2010) *The Building Regulations 2010 Drainage and Waste Disposal*

2 Methodology

2.1 Introduction

12. The waste strategy has been developed as a result of the four phases described in the following sections.

2.2 Phase 1 Data Gathering and Consultation

13. Phase 1 entailed the collation of waste data and consultation with key stakeholders as summarised below:
- Review the development and the associated waste management facilities and engage in dialogue with the design team;
 - Review of the Building Regulation H6 to ensure the emerging design of the waste management facilities, where appropriate;
 - Review of the MCC information on waste materials collection and recycling schemes in operation;
 - Review MCC guidance for storage and collection; and
 - Dialogue with MCC officers to better understand their waste requirements and key concerns.

2.3 Phase 2 Waste Forecasting

14. Phase 2 entailed the production of a waste forecast for the proposed development as summarised below:
- A household and commercial waste generation forecast using MCC recycling and waste data; and
 - Forecasting the required capacity of each waste room, using the bins and storage capacity specified by the MCC guidance.

2.4 Phase 3 Assessment of Design

15. Phase 3 entailed an assessment of the design and identifying any shortcomings with the emerging design for waste management facilities as well as opportunities for improvements. Phase 3 tasks are summarised below:
- Review of the design of the waste storage areas against the required capacities identified by the waste forecast;
 - Review of the design of the waste storage areas against the requirements from the Building Regulations and MCC waste guidance, in particular the carrying distances, container collection distances, RCV access routes, RCV parking locations; and
 - Identification of any design changes required to enable the development to meet the MCC waste guidance.

2.5 Phase 4 Design consultation

16. Phase 4 involved ongoing consultations with the design team to ensure the project waste management facilities meet the requirements of MCC waste guidance and the Building Regulations.

3 Manchester City Council Guidance

17. The proposed development is required to comply with the MCC Waste Storage and Collection Guidance¹. This section summarises the MCC Guidance and identifies how the proposed development will meet the requirements.
18. In addition MCC have developed the Manchester Residential Quality Guidance³ which includes a summary of the requirements in the MCC Waste Storage and Collection Guidance.

3.1 Manchester City Council Waste Planning Requirements

19. MCC have developed the document *Waste Storage and Collection Guidance for New Developments*¹. The document states all planning applications must include a waste strategy that features:
 - Estimated volumes and types of household and commercial waste produced by the development;
 - Details of internal and external stores for both household and commercial waste and recycling, including any plans and designs;
 - Location of the proposed collection point and details of the route the collection vehicle will take;
 - Details of how household and commercial waste will be transferred between stores and to the collection location; and
 - Details of number and capacity of bins proposed and collection frequency.
20. A summary of the MCC guidance is provided in Table 1 below.

Table 1: Summary of Manchester City Council Waste Storage and Collection Guidance for New Developments

Development	Requirements
Domestic Developments	<p><i>Waste Collection</i></p> <p>MCC offers four types of containers for the segregation of recyclables and waste:</p> <ul style="list-style-type: none"> • Brown bin or bag for dry mixed recycling (glass, plastic bottles, tins and cans, foils); • Blue bin or bag for paper and card; • Green bin or kerbside caddy for food / garden waste; and • Black bin / authorised sack for general waste. <p>The dry mixed recycling is taken to the materials recovery facility (MRF) where it automatically gets separated into different types of recycling material.</p>

³ Manchester City Council (2016) *Manchester Residential Quality Guidance*

Development	Requirements
	<p><i>Internal Storage</i></p> <p>Internal storage areas will be provided to encourage residents to recycle waste and store general waste temporarily until it is transferred to the external recycling and waste storage area. Each residential property will also need to include space for a 5 litre kitchen caddy, under the MCC requirements.</p>
	<p><i>External Storage High Rise Developments</i></p> <p>MCC requires external storage areas in new developments with the appropriate capacity to accommodate different recyclable materials and waste. Storage areas also need to be accessible to residents and RCVs.</p> <p>MCC require recyclable materials and general waste from high rise developments to be stored in, and collected from, communal containers.</p> <p>MCC have developed guidelines to allow for suitable recycling and storage capacity in high rise developments as displayed below:</p> <ul style="list-style-type: none"> • Dry Recycling will be stored in brown 240, 660 or 1,100 litre bins and require 55 litres capacity per property per fortnight; • Paper will be stored in blue 240, 660 or 1,100 litre bins and require 55 litres capacity per property per fortnight; • Organic waste will be stored in green 240 litre bins and require 15 litres capacity per property per week; and • General waste will be stored in black 660 or 1,100 litre bins and require 110 litres capacity per property per week. <p>Under the MCC requirements, storage areas in high rise developments will be designed to accommodate the containers described above, with easy access to each container.</p> <p>Where feasible, an internal access door from the residential development to the recycling and waste storage area will be provided to allow residents access. This door will be connected to the residential area by a lobby, so as to prevent nuisance odours entering the residence.</p> <p>There will be permanent signage at the entrance to the recycling and waste storage areas as well as for each bin to promote effective segregation.</p>
	<p><i>Compaction</i></p> <p>Waste compaction is not authorised by MCC for household waste.</p>
	<p><i>Provision of bins</i></p> <p>The Manchester Life Development Company will be required to purchase bins for the residential properties from MCC or a supplier. The compatibility of any containers purchased from other suppliers will need to be clarified with MCC.</p> <p><i>Bulky waste</i></p> <p>MCC can provide a collection service for bulky household refuse (e.g. fridges, furniture, etc) from residential properties on request.</p>

Development	Requirements
	<p><i>Chutes</i></p> <p>MCC allow chutes to be part of apartment developments as long as it as simple for householders to recycle as it is to use the waste chute. MCC do not accept the provision of additional recycling bins at the development (e.g. in a ground floor car park) that are not easily accessible to all residents. MCC proposes that developments could provide the following:</p> <ul style="list-style-type: none"> • Chutes for each of the four different types of recyclable material collected; • A schedule of chute rotation (including strict management controls to prevent contamination); or • Recycling bins to be provided within chute rooms (including consideration to how recycling material will be transported to collection points and whether the size of container proposed can be collected). <p>Other issues such as facilities management, communication, noise and odour would also need to be taken into consideration.</p> <hr/> <p><i>Access</i></p> <p>The MCC requirements outline the following in terms of access:</p> <ul style="list-style-type: none"> • Storage areas will be located in a position that is mutually convenient and easily accessible for both the occupants and the refuse collection crew. • All appropriate containers will be presented at the designated collection point on the scheduled day of collection. If the designated collection point is within the grounds of a property it is the responsibility of the property owner or management company to arrange appropriate access before collections can be made. • Appropriate access will also be provided for disabled people. • The design of the recycling and waste storage areas will allow for easy, horizontal removal of the containers, over smooth, continuous surfaces. • The horizontal distance that occupants will be required to travel to waste storage areas from their residences will not exceed 30m, in line with the Building Regulations 2002, Part H. • Doorways will provide at least 1.3m clearance (including thickness of doors). <p>A walkway, 1.3m in width, will be provided within the recycling and waste storage areas that enable access to each of the individual bins and ensures that an individual bin can be removed from the store without the need to remove other bins.</p> <hr/> <p><i>Turning Space</i></p> <p>MCC require the development to provide sufficient space to manoeuvre and load a vehicle of the following dimensions:</p> <ul style="list-style-type: none"> • Length – 11.5m;

Development	Requirements
	<ul style="list-style-type: none"> • Length, when loading – 13.1m; • Width – 3m; • Width, when loading – 4.1m; • Height – 4m, 6m including top loader arms; • Turning circle, between kerbs – 17.88m; • Turning circle, between walls – 19.39m; and • Fully laden RCVs weigh approximately 32 tonnes. <p>RCVs should not have to reverse into the development from a major road, and should always be able to exit the development onto a major road in a forward gear. A review of the implications of these requirements on the proposed development is shown in Section 3.2.</p> <p><i>Surface requirements</i></p> <p>The collector must not be required to wheel a container more than 10 metres to the collection vehicle. Where this involves communal containers MCC requires the paths between the stores to the collection point must:</p> <ul style="list-style-type: none"> • Be a minimum width of 1.54 metres; • Be free from kerbs / steps; • Have solid foundations; • Be suitably paved with a smooth continuous finish; and • Have dropped kerbs installed where the path meets the roadway. <p>A review of the implications of these requirements on the proposed development is shown in in Section 3.2.</p> <p><i>Security</i></p> <p>MCC prefer that waste storage areas operate a policy of controlled access but with locking mechanisms that do not require keys. Coded locks are preferred as they enable legitimate access whilst preventing illicit access. The locks to waste storage areas must be suitable for emergency exit purposes and comply with all relevant legislation. Where there is any conflict between security and fire safety requirements, the latter must prevail.</p> <p>Where there are electronic gates and / or barriers controlling access to such areas, codes will be provided to MCC.</p> <p>Where access fobs are required, three sets will need to be provided to MCC free of charge to allow access to the three different collection vehicles that will need to access the site. The door will not open directly over a public footway or highway.</p>

Development	Requirements
	<p><i>Health and Safety</i></p> <p>Waste storage areas shall have adequate lighting, this can be a combination of natural and artificial light. The floor surface shall be a material that can be easily cleaned. 'Bump Strips' should be placed around the edge of the waste storage area at bin height to prevent damage caused when using the bins. Any doors must have the ability to be held open during collection.</p> <p>MCC require bins to be washed on a regular basis and the waste storage area will maintained effectively to ensure it is clean and safe.</p> <p>A trapped gully and water supply should be provided where appropriate to facilitate washing down.</p>
Commercial developments	<p><i>Commercial waste</i></p> <p>In mixed developments dedicated recycling and waste storage areas must be provided for commercial waste separate to the residential storage areas. The commercial recycling and waste storage areas need to be sensitively located and designed and accessible to disabled people.</p> <p>The operators of commercial premises are required by legislation to enter into a commercial waste agreement with a registered waste carrier for the disposal of their waste.</p> <p>The bin provision and storage requirements and collection frequency will need to reflect the proposed occupants (e.g. retail, offices, restaurants, etc.).</p> <p>MCC have developed guidelines to allow for suitable recycling and storage capacity in commercial developments using information provided by the Association of Directors of Environment, Economy, Planning and Transport (ADEPT) displayed below:</p> <ul style="list-style-type: none"> • Offices require 2,600 litres capacity per 1,000m² gross floor space. 50% of this capacity should be retained for recycling. Typically 1,100 litre bins would be provided. • Retail require 5,000 litres per 1,000m² gross floor space. 50% of this capacity should be retained for recycling. Typically 1,100 litre bins would be provided. • Restaurants / Fast food outlets require 1,500 litres per 20 dining spaces. 50% of this capacity should be retained for recycling. Typically 1,100 litre bins would be provided. <p>Storage areas will be designed to accommodate the capacities above with easy access to each container.</p> <p>All waste will be containerised and stored off the public highway.</p> <p><i>Hazardous waste</i></p> <p>Commercial operations are likely to generate hazardous waste in small quantities such as Waste Electrical and Electronic Equipment (WEEE). This hazardous waste is likely to be stored in the individual premises of the occupant before collection.</p>

3.2 Response to the MCC Guidance

21. The proposed development will meet the requirements of the MCC waste guidance¹ (hereafter “the MCC Methodology”) as detailed below.

3.2.1 Household Waste

22. This section describes the household recycling and waste storage and collection arrangements for the proposed development.

3.2.1.1 Household Waste Storage Capacity Forecast

23. It has been possible to forecast the number of bins required for the proposed development to segregate waste effectively using the MCC Methodology below :
- Each property requires 55 litres of storage per fortnight for paper / card recycling;
 - Each property requires 55 litres of storage per fortnight for co-mingled recycling;
 - Each property requires 15 litres of storage per week for organic waste; and
 - Each property requires 110 litres of storage per week for general waste.
24. The household waste container capacity required for MCC collections is provided in Table 2 below. A gap of 200mm has been applied to the dimensions of all waste containers, as detailed in the MCC Methodology, to ensure they can be easily manoeuvred in and out of the store.

Table 2: Household Waste Container Estimations using the MCC methodology based on 213 apartments

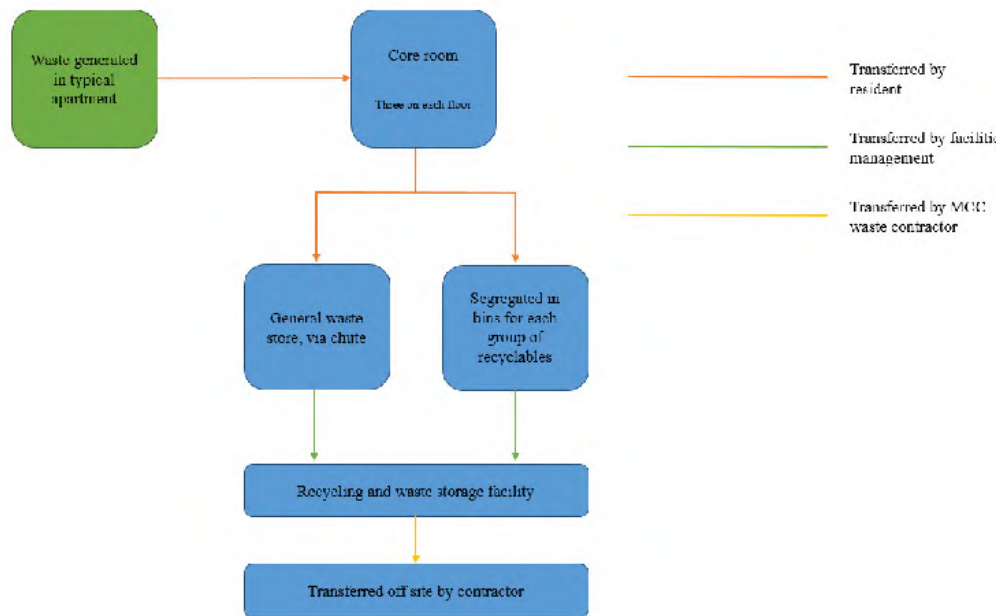
Waste Stream	Volume of bin (litres)	Number of bins	Volume (litres)	Storage Area (m ²)
Dry Recycling	1,100	11	12,100	20.6
Paper and Card	1,100	11	12,100	20.6
Organic	240	14	3,360	10.3
General Waste	1,100	22	24,200	41.2
TOTAL	N/A	58		93

25. The minimum number of bins required to service the proposed development using the MCC methodology would be 44 x 1,100 litre bins and 14 x 240 litre bins. The minimum floor area for the household recycling and waste storage for the proposed development would be 93m². The floor space (156m²) provided for the household recycling and waste storage facility is significantly in excess of the minimum floor area

3.2.1.2 Household Recycling, Waste Storage and Collection Proposals

26. The project team have developed the recycling and waste facilities at the proposed development to meet the MCC guidance. The proposed recycling and waste strategy has been developed with input from MCC and Biffa. The proposed development will include a household recycling and waste storage facility located on the ground floor (see Section 3.2.1.6).
27. The strategy is summarised in Figure 2 below.

Figure 2: Summary diagram of waste transfer strategy



28. The floor space (156m²) for the household recycling and waste storage facility, as indicated by the CRTKL Ground Floor Plan, is significantly in excess of the minimum floor area identified in Table 2 (93m²).

3.2.1.3 Internal Household Waste Separation and Storage

29. A 5 litre kitchen caddy will be provided in each residential unit, in line with MCC guidance outlined in Section 3.1.

3.2.1.4 Core Rooms

30. Residents will be asked to segregate recycling and general waste in dedicated core rooms on each floor. There will be three core rooms on each floor.
31. In a core room, residents will be able to deposit all waste and recyclables according to the MCC collection scheme. Within the core rooms, recyclables will be segregated into separate bins, with one for dry recycling, paper and organic

wastes. General waste will be disposed through chutes in each core room, which are linked to bins in the three general waste stores housed on the ground floor.

32. Once deposited in the core rooms by residents, recyclable materials will be transferred by the building management team to the household recycling and waste storage facility on the ground floor.
33. The location of the core rooms on each floor will mean residents will not be required to carry refuse in excess of 30m, satisfying the Building Regulations requirement.

3.2.1.5 General Waste Stores and Chutes

34. The general waste chutes in the core rooms will be linked to 1,100 litre containers in the three general waste stores, each located on the ground floor.
35. The general waste bins servicing the Core chutes will be transferred by the building management team to the household recycling and waste storage facility for collection, and replaced immediately by empty bins to reduce the risk of containers overspilling.

3.2.1.6 Household Recycling and Waste Storage Facility

36. There will be a dedicated household recycling and waste storage facility as part of the proposed development. The household recycling and waste storage facility on the ground floor will be used to segregate and consolidate general waste from the Cores as well as recyclables. The household recycling and waste storage facility will have a floor area in excess of 93m².
37. All recyclables will be segregated in the core rooms and in the recycling and waste storage facility according to the MCC collection scheme (dry recycling, paper and organic waste).
38. General waste will be manually transferred by the building management team from the general waste stores to the household recycling and waste storage facilities on the ground floor.
39. The household recycling and waste storage facility on the ground floor will only be accessible to the building management team and Biffa, the MCC waste management contractor.
40. The household recycling and waste storage facility is shown on the drawing titled 'Ground Floor Plan'. A copy of this is attached in Appendix A.

3.2.1.7 Household Waste Collection

41. The MCC access requirements for the RCVs and their crew will be met by the proposed development.
42. Refuse collection will be undertaken by Biffa with access to the household recycling and waste storage facility adjacent to the site along Upper Kirby Street.

43. This will enable the development to meet the MCC requirement that the collector must not be required to wheel a container more than 10 metres to the refuse collection vehicle.
44. In addition the waste management contractor can enter the household recycling and waste facility without supervision as long as they are provided with the appropriate access.

3.2.1.8 Communication

45. The proposed development's building management team will provide appropriate communication about the recycling services to future residents in an effort to increase participation and the associated recycling rate. Additionally information will be provided in residential packs to raise awareness of recycling and waste facilities at the development.

3.2.2 Commercial Waste

46. Commercial waste will be managed by the building management team, commercial occupants and appropriate waste management contractors. The occupants will be specifically expected to separate recyclable items for collection by the development's operator.
47. A commercial contract will need to be drawn up and storage container requirements will be specific to the contract for the specific commercial units.
48. Commercial waste will be stored and managed separately to the residential waste.

3.2.2.1 Internal Commercial Waste Storage

49. Sufficient space will be provided with capacity to enable the segregation and recycling of wastes generated from within the commercial units in order to limit the quantity of waste sent for disposal. There will be internal space within the commercial units to store recycling and general waste bins.
50. There will also be internal space within building management spaces (staff offices, resident amenity spaces etc.) to enable the segregation of recyclables and general waste bins.
51. The recycling and residual bins will be transferred from the commercial units to the commercial waste storage area on a regular basis.

3.2.2.2 Commercial Waste Storage Capacity Forecast

52. It has been possible to forecast the volume of weekly commercial waste from the commercial units and the building management team's activities and the associated waste capacity using guidance advocated by MCC from ADEPT⁴.

⁴ The Association of Directors of Environment, Economy, Planning and Transport (2010)
Designing Waste Management in New Developments

53. For the purposes of this assessment, it has been assumed that the commercial units will be classified as retail space as this is worst case scenario in terms of waste generation.
54. For the purposes of this assessment, it has been assumed that the building management spaces will be classified as office space as these areas are likely to generate small quantities of waste.
- Floor areas have been provided by CRTKL and Arup;
 - A recycling rate of 50% will be achieved for commercial waste based on the recycling rate being recognised by ADEPT;
 - The occupiers of the commercial units will be encouraged to recycle organic (food) waste however the forecast is based on no collection of organic waste;
 - Retail developments require 5,000 litres of waste storage for every 1,000m² gross floor space; and
 - Office developments require 2,600 litres of waste storage for every 1,000m² gross floor space.
55. The commercial waste container capacity at the proposed development is based on a weekly collection and is given in Table 3 below.

Table 3: Commercial Waste Container Capacity at the Proposed Development

Unit	Floor area (m ²)	Weekly Recycling Capacity (litres)	No. of 660 litre bins	General Waste Capacity (litres)	No. of 660 litre bins	Minimum storage area (m ²)
Commercial unit 1	77	193	1	193	1	2.7
Commercial unit 2	69	173	1	173	1	2.7
Commercial unit 3	69	173	1	173	1	2.7
Commercial unit 4	80	200	1	200	1	2.7
MLDC Operations	182	237	1	237	1	2.7
Total						13.3

56. The above table shows the worst case arrangement of commercial units likely at the proposed development. Under this arrangement, the minimum number of commercial waste bins required for the proposed development would be 10 x 660 litre bins. Further, the minimum floor area for the commercial recycling and waste storage areas for the proposed development would be 13.3m².

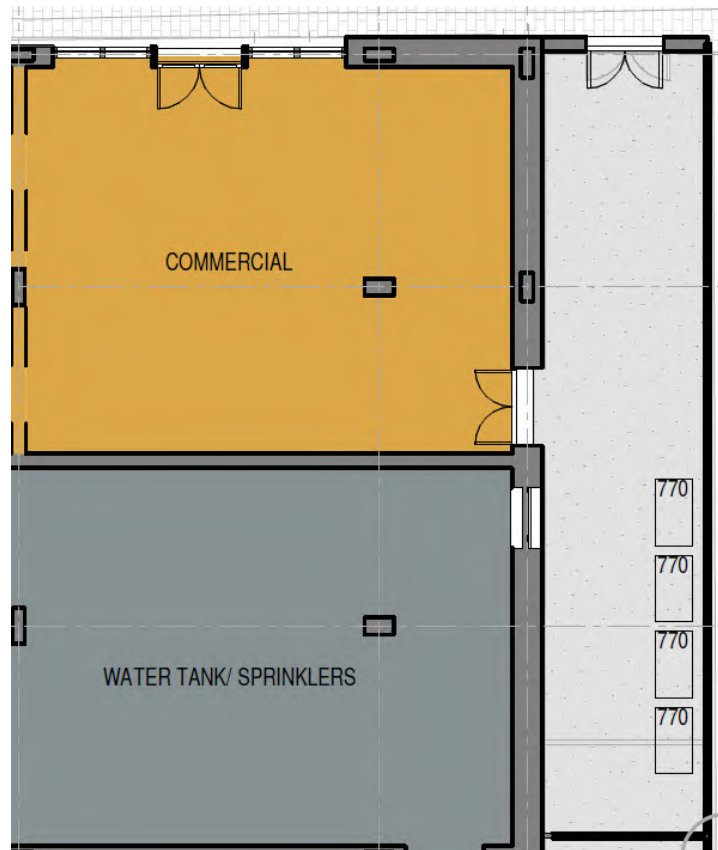
3.2.2.3 Internal Commercial Waste Storage

57. Sufficient space will be provided to enable the segregation and recycling of waste generated by the commercial units and the building management team's activities to limit the quantity of waste sent for disposal.
58. The recycling and general waste bins will be transferred from the building management team's spaces to the commercial waste storage area on a regular basis.

3.2.2.4 External Commercial Waste Storage

59. The commercial waste generated by the proposed development will be segregated in the dedicated commercial waste storage facility as displayed in Figure 3.

Figure 3: Commercial waste storage facility



60. The commercial waste storage area (26.4m²) will meet the MCC minimum floor area requirement for the storage of commercial waste (13.3m²) based on the worst case floorspace scenario in Table 3.
61. The commercial waste storage facility will be demarcated and labelled to enable each commercial tenant to separate their waste appropriately.
62. Access to the commercial waste storage facility will be undertaken adjacent to the site via Old Mill Street by a commercial waste contractor.

63. The commercial recycling and waste storage facility is shown on the drawing titled 'Ground Floor Plan. A copy of this Plan is attached in Appendix A.

3.2.2.5 Hazardous Waste

64. There will also be adequate space within the commercial waste stores for the small amounts of hazardous waste which may be produced such as Waste Electrical Equipment.

3.2.2.6 Summary

65. The commercial recycling and waste storage facility at the proposed development will meet requirements of the MCC Guidance. The commercial recycling and waste storage facility will have a floor area of 26.4m², this floor area exceeds the MCC minimum floor area requirement for the storage of commercial waste (13.3m²).

4 Building Regulations - H6 –Solid Waste Storage

66. The waste strategy for the proposed development has been informed by the waste storage requirements in the Building Regulations H6.

4.1 Building Regulations Requirements

67. The requirements of the regulations relating to solid waste storage in residences are detailed in Table 4 below.

Table 4: Requirements of Building Regulations - H6 –Solid Waste Storage

Development	Requirements
Domestic Developments	<p>Capacity</p> <p>Space should be provided for storage of containers for separated waste (i.e. waste which can be recycled is stored separately from waste which cannot) with a combined capacity of 0.25m³ per dwelling or such other capacity as may be agreed with the waste collection authority. Where collections are less frequent than once per week, this allowance should be increased accordingly.</p>
	<p>High Rise domestic developments</p> <p>Dwellings up to the 4th floor may each have their own waste container or may share a waste container.</p> <p>Dwellings above the 4th storey may share a single waste container for non-recyclable waste fed by chute, with separate storage for any waste which can be recycled. Alternatively storage compounds or rooms should be provided. In such case a satisfactory management arrangement for conveying refuse to the storage area should be assured.</p> <p>The use of 'Residents Only' recycling centres (areas where residents may bring their recyclable waste for storage in large containers e.g. bottle banks) in larger blocks has been found to be effective in some areas.</p>
	<p>Siting</p> <p>Storage areas for waste containers and chutes should be sited so the distance householders are required to carry refuse does not usually exceed 30m (excluding vertical distance). Containers should be within 25m of the waste collection point specified by the waste collection authority.</p> <p>The location for storage of waste containers should be sited so that, unless it is completely unavoidable, the containers can be taken to the collection point without being taken through a building, unless it is a porch or garage, or a car port or to an open covered space (this provision applies only to new buildings except that extensions and conversions should not remove such a facility where one already exists).</p> <p>For waste containers up to 250 litres, steps should be avoided between the container store and collection point wherever possible and should not exceed 3 in number. Slopes should not exceed 1:12. Exceptionally this may be exceeded provided that the lengths are not excessive and it is not part of a series of slopes. For storage areas where larger</p>

Development	Requirements
	<p>containers are to be used steps should be avoided. Where this is not otherwise possible, the storage areas should be relocated.</p> <p>The collection point should be reasonably accessible to the size of waste collection vehicles typically used by the waste collection authority.</p> <p>External storage areas for waste containers should be away from windows and ventilators and preferably be in shade or under shelter. Storage areas should not interfere with pedestrian or vehicle access to buildings.</p> <p>Design</p> <p>Where enclosures, compounds or storage rooms are provided they should allow room for filling and emptying and provide a clear space of 150mm between and around the containers. Enclosures, compounds or storage rooms for communal containers should be a minimum of 2m high. Enclosures for individual containers should be sufficiently high to allow the lid to be opened for filling. The enclosure should be permanently ventilated at the top and bottom and should have a paved impervious floor.</p> <p>Communal storage areas should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.</p> <p>Any compound for the storage of waste should be secure to prevent access by vermin unless the waste is to be stored in secure containers with close fitting lids.</p> <p>Where storage rooms are provided, separate rooms should be provided for the storage of waste which cannot be recycled, and waste which can be recycled.</p> <p>Where the location for storage is in a publicly accessible area or in an open area around a building (e.g. a front garden) an enclosure or shelter should be considered.</p> <p>High-rise domestic developments</p> <p>Where chutes are provided they should be at least 450mm diameter and should have a smooth non-absorbent surface and close fitting access doors at each storey which has a dwelling and be ventilated at the top and bottom.</p>
Non-domestic developments	<p>Consult the waste collection authority for guidance on resolving the following points.</p> <p>The volume and nature of the waste and the storage capacity required, will be based on the frequency of collection and the size and type of waste container.</p> <p>Any requirements for segregation of waste which can be recycled</p> <p>The method of waste storage, including any on-site treatment proposed, related to the intended layout and building density.</p> <p>The location of waste storage areas, waste treatment areas and waste collection points and the access to these locations for operatives and vehicles.</p> <p>Fire hazards and protection measures.</p>

Development	Requirements
	<p>Waste storage areas should have an impervious floor and should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.</p> <p>Any room for the open storage of waste should be secure and prevent access by vermin. Any compound for the storage of waste should be secure to prevent access by vermin unless the waste is to be stored in secure containers with close fitting lids.</p> <p>Waste storage areas should be marked and signs should be provided.</p>

4.2 Response to the Building Regulations

68. Sections 3 of this report have focussed on waste forecasts and handling requirements across the development, and how these meet MCC guidance. This section gives a commentary on the requirements of the Building Regulations³.

4.2.1 Building Regulations - H6, Compliance and Implications of residential areas

4.2.1.1 High Rise domestic developments

69. The Building Regulations state that dwellings up to the 4th floor may each have their own waste container or may share a waste container.

4.2.1.2 Siting

The Building Regulations state that storage areas for waste containers shall be sited so the distance householders are required to carry refuse does not usually exceed 30m (excluding vertical distance). In addition the regulations state:

- The location for storage of waste containers should be sited so that, unless it is completely unavoidable, the containers can be taken to the collection point without being taken through a building.
 - Slopes should not exceed 1:12 and steps should be avoided. Where this is not otherwise possible, the storage areas should be relocated.
 - The collection point should be reasonably accessible to the size of waste collection vehicles typically used by the waste collection authority.
 - Storage areas should not interfere with pedestrian or vehicle access to buildings.
 - The waste storage areas should be away from windows and ventilators and preferably be in shade or under shelter.
70. For the proposed development, waste storage facilities have been sited so the distance householders are required to carry refuse does not exceed 30m. The waste storage facility will have direct access for collection teams and avoid the need for them to go through a building. Slopes will not exceed 1:12 and steps will be avoided.
71. The collection points will be accessible to the size of waste collection vehicles typically used by MCC. This has been discussed in consultation with MCC and Biffa.
72. Storage areas will not interfere with pedestrian or vehicle access to the proposed development. It has been confirmed that the storage facility will be located away from windows and ventilation.

4.2.1.3 Design

73. The Building Regulations state where enclosures, compounds or storage rooms are provided they should allow room for filling and emptying and provide a clear

space of 150mm between and around the containers. In addition, the following is stated:

- Enclosures, compounds or storage rooms for communal containers are required to be a minimum of 2m high, and enclosures for individual containers should be sufficiently high to allow the lid to be opened for filling. The enclosure should be permanently ventilated at the top and bottom and should have a paved impervious floor.
 - Communal storage areas should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.
 - Any room for the open storage of waste should be secure and prevent access by vermin. Any compound for the storage of waste should be secure to prevent access by vermin unless the waste is to be stored in secure containers with close fitting lids.
 - Where storage rooms are provided, separate rooms should be provided for the storage of waste which cannot be recycled, and waste which can be recycled.
 - Where the location for storage is in a publicly accessible area or in an open area around a building (e.g. a front garden) an enclosure or shelter should be considered.
74. The waste capacity forecast for the proposed development (included in Table 2) is based on the MCC Methodology which requires a gap of 200mm around waste containers. The 150mm gap required by Building Regulations will therefore be exceeded. The waste storage facility will be at least two metres high, enabling the lid of the waste containers to be fully lifted up. The waste storage facility will have permanent ventilation at the top and bottom.
75. The waste storage facility will have a washing down facility along with appropriate drainage and gullies for receiving contaminated effluent.
76. The facilities will minimise access to pests.
77. The waste storage facility will enable the segregation of recyclable and general waste.

4.2.2 Building Regulations – H6 Implications of non-residential areas

78. For non-residential uses, the Building Regulations require that the local waste collection authority is consulted for guidance on resolving the following points:
- The volume and nature of the waste and the storage capacity required, based on the frequency of collection and the size and type of waste container;
 - Any requirements for segregation of waste which can be recycled;
 - The method of waste storage, including any on-site treatment proposed, related to the intended layout and building density;

- The location of waste storage areas, waste treatment areas and waste collection points and the access to these locations for operatives and vehicles; and
 - Fire hazards and protection measures.
79. The Regulations also require that waste storage areas should have an impervious floor and should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.
80. Finally, any room for the open storage of waste should be secure and prevent access by vermin and waste storage areas should be marked and signs should be provided.
81. Consultation has taken place with the local authority on these issues and the above has been taken into account.
82. The building regulations are therefore satisfied across the proposed development.

Table 5: Implications of the local (MCC) and national (Building Regulations) waste requirements for the proposed development

Topic	MCC Requirements	Implications
MCC Household Recycling and Waste Services	<p>MCC require 1,100, 770 or 660 litre bins to capture cardboard and paper collected by householders.</p> <p>MCC require 1,100, 770 or 660 litre bins to capture co-mingled recycling to capture (glass, plastic bottles, tins & cans, foils) collected by householders.</p> <p>MCC require 240 litre bins to capture organic waste.</p> <p>MCC require 1,100, 770 or 660 litre bins to capture residual/general waste.</p>	<p>The household waste storage facilities across the proposed development must accommodate four types of waste container.</p> <p>In addition residents will be made aware of the MCC waste and recycling services and the proposed recycling and waste storage facilities.</p>
Communal waste store containment	<p>MCC specify that the communal storage chambers will need to provide space for the following:</p> <ul style="list-style-type: none"> -Each property requires 55 litres of storage per fortnight for paper/card recycling. -Each property requires 55 litres of storage per fortnight for co-mingled recycling. -Each property requires 15 litres of storage per week for organic waste. -Each property requires 110 litres of storage per week for residual / general waste. 	<p>Based on the number of properties at the site the storage areas at the proposed development will accommodate the following:</p> <ul style="list-style-type: none"> 11 x 1,100 litre container for paper/card recycling. 11 x 1,100 litre container for co-mingled recycling. 14 x 240 litre container for organic recycling. 22 x 1,100 litre container for household waste.
Communal waste store chambers	<p>An internal access door from the residential development to the recycling and waste storage area should be provided to allow residents access. This door should be connected to the residential area by a lobby, so as to prevent nuisance odours entering the residence. Doorways shall provide at least 1.3m clearance (including thickness of doors).</p> <p>The storage area should have a water supply, drainage and lighting.</p>	<p>The core rooms will have an internal access door from the proposed development. The doorway shall be at least 1.3m clearance.</p>

	<p>MCC specify there should be permanent signage at the entrance to the recycling and waste storage areas as well as for each bin to promote effective segregation.</p> <p>A walkway, 1.3m in width, should be provided within the recycling and waste storage areas that enable access to each of the individual bins and ensures that an individual bin can be removed from the store without the need to remove other bins.</p> <p>The design of the recycling and waste storage areas should allow for easy, horizontal removal of the containers, over smooth, continuous surfaces.</p>	<p>The recycling and waste storage facility on the ground floor will include key utilities: water and electricity. In addition the store will have drainage.</p> <p>There will be appropriate signage at the entrance to the storage facility and for different containers.</p>
Communal waste store security	<p>MCC prefer that waste storage areas operate a policy of controlled access but with locking mechanisms that do not require keys. Coded locks are preferred as they enable legitimate access whilst preventing illicit access.</p> <p>Where there are electronic gates and/or barriers controlling access to such areas, codes should be provided to MCC.</p>	<p>Waste storage area will be secured appropriately.</p> <p>The waste management contractor will be provided with access to the waste storage area.</p>
Communal waste Location	<p>MCC require waste storage areas to be located in a position that is mutually convenient and easily accessible for both the occupants and the collection crew.</p> <p>Appropriate access shall be provided for disabled people.</p> <p>The horizontal distance that occupants will be required to travel to waste storage areas from their residences should not exceed 30m, in line with the Building Regulations 2002, Part H.</p>	<p>The waste storage facilities will be located across each floor with easy access for residents.</p> <p>The horizontal distance that occupants will be required to travel to waste storage areas from their residences will not exceed 30m.</p>
Communal waste storage Vehicle access	<p>The collector must not be required to wheel a container more than 10 metres to the collection vehicle.</p> <p>MCC require the development to provide sufficient space to manoeuvre and load a vehicle of the following dimensions:</p> <p>Length – 11.5m , when loading – 13.1m;</p> <p>Width – 3m, when loading – 4.1m;</p> <p>Height – 4m, 6m including top loader arms;</p>	<p>The maximum walking distance for refuse collectors is 10 metres.</p> <p>The clearance height for the vehicle will be a minimum 4 metres.</p> <p>Paths between the waste storage area and the collection point must be a minimum width of 1.54 metres; free from kerbs or</p>

	<p>Turning circle, between kerbs – 17.88m, between walls – 19.39m.</p> <p>Paths between the waste storage area and the collection point must:</p> <ul style="list-style-type: none"> -Be a minimum width of 1.54 metres; -Be free from kerbs / steps; -Have solid foundations and be suitably paved with a smooth continuous finish; and -Have dropped kerbs installed where the path meets the roadway. 	<p>steps; have solid foundations; be suitably paved with a smooth continuous finish.</p> <p>A dropped kerb is already provided at the southern end of the footway along Upper Kirby Street, allowing for refuse collection at this location.</p>
Communal waste Storage of Bulky articles	<p>Where communal waste storage chambers are installed, separate enclosed accommodation should be provided at ground level for the storage of large bulky waste (furniture, fridges, etc.). The size of this facility is dependent on the size of the development but it must be accessible for collection.</p>	<p>Separate space will be provided for bulky items.</p>
Commercial Waste Storage	<p>MCC specify there must be separate commercial and household waste storage. In addition the commercial tenants will be required to segregate their waste for recycling and adequate space will need to be provided. These storage areas must also be easily accessible from the commercial property and by waste collection vehicles.</p> <p>There will also be adequate space for the storage of bulky waste and the small amounts of hazardous waste produced.</p>	<p>Commercial waste will be managed by the proposed development's operator, occupants and an appropriate waste management contractor. Occupants will be specifically expected to separate recyclable items for collection by the development's operator. Commercial waste will be stored and managed separately to the residential waste.</p> <p>Space will need to be provided with sufficient capacity to enable the segregation and recycling of wastes generated from the commercial units including hazardous waste and bulky items.</p>

Communal commercial waste store containment	<p>MCC specify that the commercial storage chambers will need to provide space for the following:</p> <ul style="list-style-type: none"> -Office space require 2,600 litres per 1,000m² gross floor space; and -Retail require 5,000 litres storage per 1,000m² gross floor space At least 50% of the storage capacity should be retained for recycling. 	<p>Based on the commercial properties at the site the storage areas at the development will need to accommodate the following:</p> <p>5 x 660 litre containers for recycling.</p> <p>5 x 660 litre container for general waste.</p>
The Building Regulations		
High Rise domestic developments	<p>Dwellings up to the 4th floor may each have their own waste container or may share a waste container.</p> <p>Dwellings above the 4th storey may share a single waste container for non-recyclable waste fed by chute, with separate storage for any waste which can be recycled.</p> <p>Alternatively storage compounds or rooms should be provided. In such case a satisfactory management arrangement for conveying refuse to the storage area should be assured.</p> <p>The use of 'Residents Only' recycling centres (areas where residents may bring their recyclable waste for storage in large containers, e.g. bottle banks) in large blocks has been found to be effective in some areas.</p>	<p>Chutes used onsite will meet the Building Regulations H6.</p>
Siting	<p>Storage areas for waste containers should be sited so the distance householders are required to carry refuse does not usually exceed 30m (excluding vertical distance).</p> <p>The location for storage of waste containers should be sited so that, unless it is completely unavoidable, the containers can be taken to the collection point without being taken through a building.</p> <p>Slopes should not exceed 1:12. Steps should be avoided. Where this is not otherwise possible, the storage areas should be relocated.</p> <p>The collection point should be reasonably accessible to the size of waste collection vehicles typically used by the waste collection authority.</p> <p>Storage areas should not interfere with pedestrian or vehicle access to buildings.</p>	<p>Waste storage facilities will be sited so the distance householders are required to carry refuse does not usually exceed 30m.</p> <p>The household recycling and waste storage facility will have direct access for the collection team and avoid the need for them to go through a building.</p> <p>Slopes will not exceed 1:12 and steps will be avoided.</p> <p>The collection point will be accessible to the size of waste collection vehicles typically used by MCC.</p>

	The waste storage areas should be away from windows and ventilators and preferably be in shade or under shelter.	Storage areas will not interfere with pedestrian or vehicle access to the proposed development. The storage facilities will be located away from windows and ventilation.
Design	<p>Where enclosures, compounds or storage rooms are provided they should allow room for filling and emptying and provide a clear space of 150mm between and around the containers. Enclosures, compounds or storage rooms for communal containers should be a minimum of 2m high. Enclosures for individual containers should be sufficiently high to allow the lid to be opened for filling. The enclosure should be permanently ventilate at the top and bottom and should have a paved impervious floor.</p> <p>Communal storage areas should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.</p> <p>Any room for the open storage of waste should be secure and prevent access by vermin. Any compound for the storage of waste should hall be secure to prevent access by vermin unless the waste is to be stored in secure containers with close fitting lids.</p> <p>Where storage rooms are provided, separate rooms should be provided for the storage of waste which cannot be recycled, and waste which can be recycled.</p> <p>Where the location for storage is in a publicly accessible area or in an open area around a building (e.g. a front garden) an enclosure or shelter should be considered.</p>	<p>The household recycling and waste storage facility has been designed to allow at least a 150mm gap surrounding the waste containers. The household recycling and waste storage facility has been designed to be at least 2 metres high, enabling the lid of the waste containers to be fully lifted up.</p> <p>The household recycling and waste storage facility has been designed to have permanent ventilation at the top and bottom.</p> <p>The household recycling and waste storage facility has been designed to include washing down facilities along with appropriate drainage and gullies for receiving contaminated effluent.</p> <p>The household recycling and waste storage facility has been designed to be secure and minimise accessibility of pests.</p> <p>The waste storage facilities will enable the segregation of recyclable and general waste.</p>

Non-domestic developments	<p>Consult the waste collection authority for guidance on resolving the following points.</p> <p>The volume and nature of the waste and the storage capacity required, based on the frequency of collection and the size and type of waste container.</p> <p>Any requirements for segregation of waste which can be recycled</p> <p>The method of waste storage, including any on-site treatment proposed, related to the intended layout and building density.</p> <p>The location of waste storage areas, waste treatment areas and waste collection points and the access to these locations for operatives and vehicles.</p> <p>Fire hazards and protection measures.</p> <p>Waste storage areas should have an impervious floor and should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.</p> <p>Any room for the open storage of waste should be secure and prevent access by vermin.</p> <p>Waste storage areas should be marked and signs should be provided.</p>	<p>The non-domestic developments of the proposed development will be designed to comply with the Building Regulations.</p>
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5 Consultation and design development

84. Consultation between the design team and Manchester City Council (MCC) has taken place during the Manchester Life Phase 1 planning phase to discuss the general principles of recycling and waste storage at the proposed developments. Enterprise (the waste management contractor when the strategy was being first developed) were also consulted.
85. During the consultation, various approaches to recycling and waste facilities were discussed, which have informed the proposed waste strategy. Despite the introduction of a new waste management contractor there has been no change to the MCC waste guidance.

6 Summary

87. This Recycling and Waste Strategy demonstrates how waste and recyclables will be stored, transferred and collected at the proposed development. The strategy complies with the recycling and waste requirements of MCC, as set out in their guidance document GD04, and the service requirements of Biffa. Further, as demonstrated in the previous section, the strategy shows how the proposed development will satisfy the Building Regulations.
88. The number and capacity of bins has been estimated based on the proposed numbers of residential units and commercial floor space.
89. Residents at the proposed development will be asked to segregate recycling and general waste in one of three core rooms provided on each floor.
90. In the core room, residents will be able to deposit all waste and recyclables according to the MCC collection scheme. Recyclables will be segregated into separate bins (e.g. dry recycling, paper and organic waste). General waste will be disposed through chutes in each core room which are linked to bins located in general waste stores which are housed on the ground floor.
91. Refuse collection will be undertaken by Biffa with access to the household recycling and waste storage facility adjacent to the site along Upper Kirby Street.
92. The household recycling and waste storage facility will be used to segregate and consolidate general waste and recyclables from across all the cores and the general waste stores.
93. The floor area will significantly exceed the minimum floor area required by MCC (93m²) for the household recycling and waste storage areas.
94. Commercial waste will be stored and managed separately to the residential waste.
95. Sufficient space will be provided with capacity to enable the segregation and recycling of wastes generated from the commercial units and building management team in order to limit the quantity of waste sent for disposal. There will be internal space within the commercial units to store recycling and general waste bins.
96. There is a dedicated commercial waste storage facility on the ground floor. The commercial recycling and waste storage facility will have a floor area of 26.4m². This floor area exceeds the MCC minimum floor area requirement for the storage of commercial waste (13.3m²).

Table 5 displays a summary of the recycling and waste requirements for the proposed development.

Appendix A

Ground Floor Plan

WEAVERS QUAY

OLD MILL ST

GENERAL NOTES

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Notes and material designations are typical for similar conditions unless otherwise indicated.

Do not scale from this drawing.

Room Key

- L Living
K Kitchen
B Bedroom
W WC

Legend

- 1 Bed
2 Bed
AMENITY
BOH
CIRCULATION
COMMERCIAL
STAFF

B	28.04.2017	Additional louvers added
A	26.04.2017	Revised to clients comments
REV NO.	DATE	DESCRIPTION

KEY PLAN

PROJECT

Lampwick

CLIENT



Manchester Life
Development
Company

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SHEET IDENTIFICATION

TITLE

**GROUND FLOOR
PLAN**

STATUS

PLANNING

PROJECT NUMBER 050-160055	DATE DRAWN: 03/28/17 SCALE @ A1: 1 : 200 DRAWN BY: AC CHECKED BY: MJP
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DRAWING NUMBER P-12500	REVISION B
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