

WASTE & SERVICING STRATEGY REPORT

Premier Inn Hotels and Dominvs Group

One Medlock Street, Manchester

October 2022

VN91290

Waste & Servicing Strategy Report

Report control

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1 INTRODUCTION

Background

- 1.1 This Waste & Servicing Strategy Report is prepared by Vectos in support of a planning application for the redevelopment of the existing Premier Inn site at One Medlock Street in Manchester City Centre to provide a commercial office building and purpose-built student accommodation (PBSA) building.
- 1.2 The demolition of the existing hotel building and structures and the development of the site for office uses (Use Class E), flexible office/community use (Use Class E/F1/F2) and purpose-built student accommodation (Sui Generis) comprising two separate buildings, along with associated ancillary internal and external amenity space, hard and soft landscaping and associated highway works.

Site Context

- 1.3 The Premier Inn site is located at the southern end of Medlock Street, bound by River Street to the north. Medlock Street to the east, Medlock Street Junction and Mancunian Way to the south, and the River Street Tower student accommodation development to the west. The site's main vehicular access is currently taken from the north via River Street. The site is currently in operation as a circa. 200 bed hotel, with a 113-space car park.
- 1.4 The location of the development site is shown in **Figure 1.1**.



Figure 1.1: Site Location

Development Proposals

1.5 The proposed development would comprise the following:

- 36,494sqm (GIA) of commercial office floorspace (Block A);
- 30,590 (GIA) of Purpose-Built Student Accommodation (PBSA) floorspace (Block B);
- 1,014 student accommodation units (Block B);
- 293 sqm (GIA) of Flexible Ground Floor Community Space (Block B);
- 8 x disabled car parking spaces;
- 718 long-stay cycle parking spaces;
- Landscaping and public realm works.

1.6 The proposed site layout with the ground floor layouts is provided at **Appendix A**.

Scope of the Report

- 1.7 The Waste Strategy establishes the means of recycling the material generated and sets out the following:
 - Forecast waste generation & recycling rates;
 - Proposed waste management strategy;
 - Proposed waste storage facilities; and
 - Forecast the refuse collection frequency.
- 1.8 This report sets out the policy context for waste management, forecast the waste generated, the number of bins required, the collection frequency, the management and oversight of the waste collection strategy.
- 1.9 The Servicing Strategy sets out the movement of vehicles to and from the buildings and includes:
 - Calculation of the number of expected deliveries;
 - Service strategy for goods to be delivered to the occupiers; and
 - The general management of the servicing area.

2 SERVICING STRATEGY

Introduction

2.1 The typical deliveries for the development will be as follows:

- Office Space (Block A): office supplies, post/courier, consumables, occasional IT supplies and office furniture.
- Block A Flexible Commercial Unit: Variable (assumed to be daily food/ drink, consumables deliveries and occasional kitchen equipment or furniture deliveries.
- Student Accommodation: Online Groceries, post /courier deliveries, occasional furniture deliveries.
- Flexible Community Space (Block B). Variable occasional food/drink, consumables and equipment deliveries.

Delivery Forecasts and Timings of Deliveries

2.2 A forecast of service and delivery vehicle trips has been undertaken for the building with reference TRICS database for Office and Student Accommodation. The results of the service / delivery vehicle trip forecasts are summarised in **Table 2.1**.

Table 2.1. Service Vehicle Trip Forecasts

	Office		PBSA		Flex Commercial & Community Space		Total	
	HGV	LGV	HGV	LGV	HGV	LGV	HGV	LGV
0700-0800	0.8	6.3	1.4	1.0	0	0	3	7
0800-0900	3.8	12.1	0	0.7	0	0	4	13
0900-1000	2.5	14.6	0	2.7	0	0	2	17
1000-1100	2.2	15.9	2.0	4.4	0.1	0.9	4	21
1100-1200	1.6	16.8	0	5.7	0.2	0.7	2	23
1200-1300	1.1	14.8	0	2.0	0.1	0.6	1	17
1300-1400	0.0	9.6	0	4.4	0.1	0.8	0	15
1400-1500	0.6	14.6	0	5.1	0	0.6	1	20
1500-1600	1.1	14.8	0	3.7	0	0.3	1	19
1600-1700	0	12.6	0	2.0	0.2	0.3	0	15
1700-1800	0	3.8	0	0.7	0.1	0.5	0	5
1800-1900	0	1.7	0	0	0	0.3	0	2
1900-2000	0	0	0	1.0	0.1	0.2	0	1
2000-2100	0	0	0	1.7	0	0.2	0	2
2100-2200	0	0	0	0.0	0	0.1	0	0
Daily	14	138	3	35	1	5	19	178

- 2.3 It can be seen that we might expect around 20 Light Good Vehicle deliveries in the busiest hour. Many of these are expected to be quick drop-offs and some are likely to use the parking bays on River Street rather than coming into the site.
- 2.4 The figures are considered robust as some of these vehicles such as post and waste will serve both buildings in one delivery. Also, the development is located close to other business and residential accommodation so many delivery vehicles will already be on the highway as part of a combined service route which significantly reduces the number of new trips to the area.
- 2.5 Typically, most deliveries are small consignments and evidence from other sites show that 40% of all deliveries take less than 5 minutes. Larger deliveries tend to take longer and for this site we expect that a large delivery consignment would take no more than 20 minutes to serve the site.
- 2.6 All deliveries at the development will be undertaken between the hours of 07:00 and 20:00.
- 2.7 The service area will be managed so that as the nature of the regular deliveries are confirmed, the vehicle arrivals of the larger deliveries are timed so that they do not conflict.
- 2.8 Generally, the deliveries would be made to the reception whereupon the occupant would be called to collect. There is sufficient space to receive such goods with a post room available for the student accommodation. Larger deliveries can be made by the drivers using their handling equipment by exception.

Service Vehicle Access

- 2.9 Service vehicles would enter the site via Edge Street to the west of the site and pass through a control point. Here there would be automatic bollards and an intercom unit where the drivers can communicate to gain entry. Regular vehicles could benefit from automatic entry by number plate recognition.
- 2.10 At the southern part of the site there is an enclosed service yard area which has a gated access. Here access through the gates can be triggered to open and close automatically by sensor loops within the road surface to minimise delay.
- 2.11 The tracking of the largest vehicle passing around the site is shown in **Dwg VN91290-TR116**.
- 2.12 There is a central service corridor between the two buildings and here vehicles can unload. There is space for vans and rigid lorries to pass a large vehicle along that corridor while there are cars parked in the disabled bays.
- 2.13 Once heading north these vehicles can then rejoin River Street at a simple give way junction.

Service Vehicle Mitigation Measures

- 2.14 Measures will be taken regarding pedestrian safety/amenity and servicing will be made with a minimum amount of noise and no use of the horn at any time.
- 2.15 As such vehicles will manoeuvre on - site with as little noise as possible and drivers will ensure they:
- Engage gears quietly;
 - Keep engine revs to a minimum;
 - Apply brakes gently;
 - Close driver's door quietly; and
 - Engine off when not in use.

3 WASTE STRATEGY & FORECASTS

Introduction

- 3.1 This section of the report outlines the management of waste. Waste forecasts across the various land uses proposed are discussed before the site's refuse storage provision is detailed and subsequent waste transfer strategy.

Policy Context

- 3.2 The development falls within the City of Manchester and MCC have published guidance (GD04) on the design and management of buildings to produce waste management strategies that maximise the amount of waste that is recycled.
- 3.3 Manchester City Council requests that a Waste Pro Forma is completed to support development applications and this is presented in **Appendix B**.
- 3.4 To achieve high recycling rates, it states that all refuse should be separated at source and stored off the highway in purpose-built refuse stores minimising the distance to collection thus reducing the opportunity for spillage.
- 3.5 In accordance with Section 34 of the Environmental Protection Act 1990, the manager of the development has a legal 'Duty of Care' to ensure that waste is securely stored and disposed of legally. The most convenient way to achieve this is by using a registered waste carrier.
- 3.6 The Waste (England and Wales) (amendment) Regulations 2012 has introduced changes and updates that affect both waste producers and waste management companies alike. These include the need to separate wastepaper, metal, plastic and glass in different waste streams.
- 3.7 Another change will be the obligatory use of SIC codes in all documentation relating to waste management services and a compulsory commitment from waste producers to adhere to the waste hierarchy as described in **Figure 3.1**.

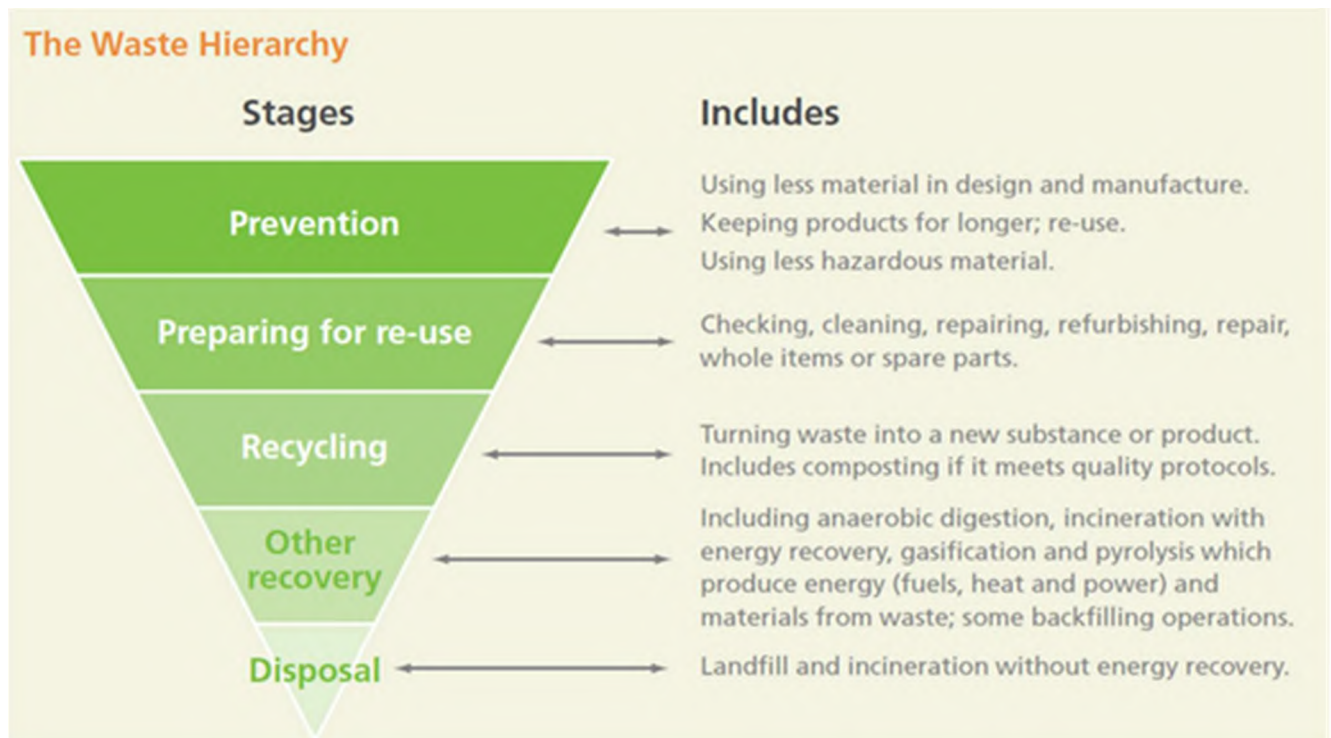


Figure 3.1: Waste Hierarchy

- 3.8 To demonstrate compliance with regulations, a Waste Transfer Note is required when that waste is collected by the waste carrier. This may be provided electronically. Many carriers are also able to provide environmental reports to inform on the waste management performance.
- 3.9 Interventions are needed in all stages of the process to minimise waste going to landfill. The minimisation of waste and recycling interventions by occupiers and the management company can help meet MCC's and the government's aspirations.
- 3.10 All new developments must meet the requirements of Part H6 of the Building Regulations 2000 (solid waste storage) which states:
- Adequate means of storing solid waste shall be provided; and
 - Adequate means of access should be provided for people in the building to the place of storage, and, from the place of storage to a collection point agreed by the waste collection authority.

4 WASTE MANAGEMENT STRATEGY

Office Waste

- 4.1 Most office waste would generally be collected by the cleaners at the end of the day and brought down by lift to the ground floor bin store.
- 4.2 The largest component of office waste will be paper, but we recognise that many occupiers are reducing the volume of paper used through different working practices and this will help reduce the volume of waste generated.
- 4.3 We expect some other smaller waste streams to be generated but managed separately. That waste can include:
 - Electrical WEEE items (waste electrical and electronic equipment) - Returned to supplier.
 - Printer & Toner Cartridges - Typically posted to supplier for recycling.
 - Batteries – Set up Battery collection point(s). Arrange for Free collection e.g. BatteryBack.
- 4.4 The bin stores at each office level are assumed as follows:

At the end of the desk:

Paper

General waste



Reception:

Batteries

WEEE

Printer cartridges



Kitchen:

Food Waste Caddy

General Waste

Mixed recyclables (Plastic/Metals)

Glass



Central Locations in Office (as required):

Mixed Recyclables (Plastic/Metals)

Confidential paper

Paper/Cardboard

General waste



- 4.5 There is evidence that removing bins from the end of desks increases recycling and this will be considered as part of the recycling strategy. A key element of the waste strategy is to avoid single use plastics. Therefore, it is proposed that water coolers are connected to the water supply and staff will use glasses rather than plastic cups.
- 4.6 There are systems set up to recycle office printer toner cartridges and electrical equipment generated from the office floors and they are often can often be recycled by sending through sent off in the post or collected by a courier.
- 4.7 We expect that there will be some confidential waste that need shredding. This will be managed at each location where the confidential waste is generated.
- 4.8 A contractor will be instructed to collect that waste in appropriate sacks that are sealed and recorded. That waste is then taken down via goods lift to the loading bay and then transferred to a waiting shredding lorry that will destroy the documents and confirm their destruction.



Student Accommodation Waste

- 4.9 Residents would use a waste chute to deposit their rubbish. At the base of the chute there will be an automated tri-separator to segregate waste. There would therefore be three waste streams created and these would be colour coded to help management and compliance. The Waste Streams for the residential land use is given below:

Pulpable Recycling (Paper/Cardboard/Tetrapak etc)



Mixed Recycling (Glass/Cans/Plastics)



Food Waste



General Waste – All Other Waste

Figure 4.1: Residential Waste Streams

- 4.10 It is expected that 50% of the material would be General Refuse including food waste 25% Dry Recyclable Waste, and 25% pulpable waste.
- 4.11 On every floor there is a waste chute lobby and occupiers would take the rubbish to the chute. Residents would be briefed on use of the chute and the need for correctly separating waste for recycling. At the waste chute they would press a button depending on which type of waste is to be deposited. An example of a waste chute is provided in **Figure 4.2**.



Figure 4.2: Three Way Waste Chute Panel

- 4.12 At the bottom of the waste chute there would be a Waste Tri-Separator and three Eurobins one for general waste, one for dry recyclables and one pulpable. There would be a 3-way deflector to direct the waste to the relevant bin and this is controlled by the button pressed by the occupier above. The management company would monitor the bins with an alarm system in place as well as CCTV as they fill and replace them with empty bins according to demand. The Tri-Separator equipment is indicated in **Figure 3.3** below.

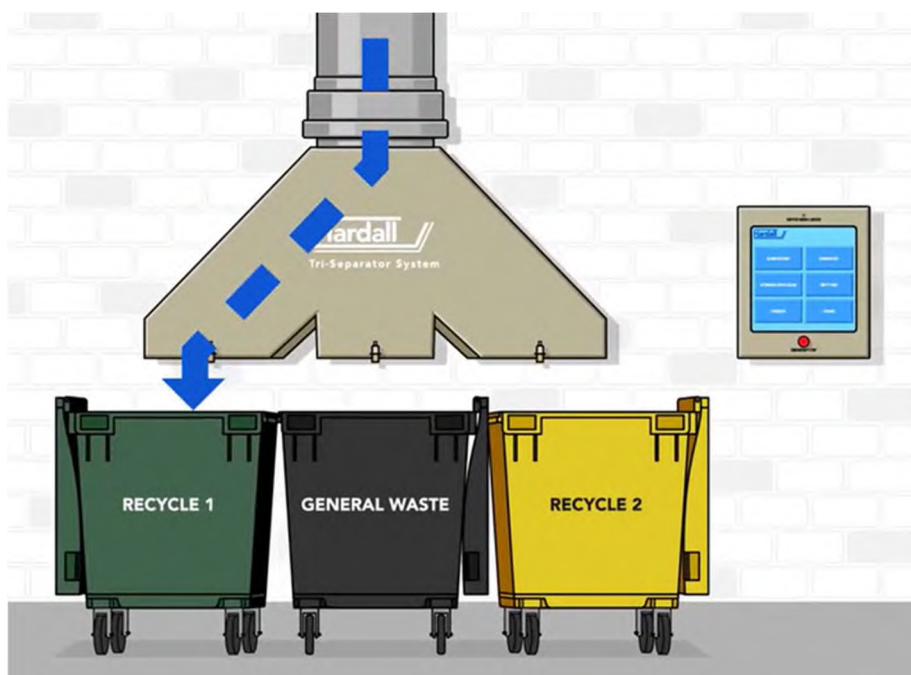


Figure 4.3 Tri-Separator Equipment

- 4.13 With the use of the Tri-Separator and the movement of bins by management, it is proposed that students would only be able to access the Bin Store escorted.
- 4.14 Students may have larger waste/rubbish items which cannot (or should not) be sent down the waste chute. To avoid problems the management company would arrange for the students to bring that waste via the lifts to specific bins in the refuse store for collection under supervision of the on-site management team.

Flexible Commercial/Community Space

- 4.15 The development will provide space for ancillary space which can be used for a variety of uses that complement the Office and Student Accommodation land uses and would fall within the overall Class E use class. As the end use of these spaces are uncertain, we have made an allowance in the waste forecasting figures to allow for a reasonable generation of waste.
- 4.16 In the office ground floor space we have made a robust assumption that this could provide for a 150 cover restaurant generating 75 litres of waste per cover per week and the flexible community space in the PBSA is assumed to generate a flexible broad brush rate of 10 litres of waste per sqm per week.
- 4.17 The Block A Commercial Unit would manage its waste within its own demise and would have 4 waste streams, General, Organic, Paper/Card and mixed Plastic/Glass/Metal. This unit has a route out onto the service road where its bins can be collected on a daily or every 2 day basis.
- 4.18 It is proposed that the waste from Flexible Community Space in the PBSA would be directed into the Student Waste Streams.
- 4.19 The waste collections from all the land uses would be coordinated so as to limit the number of refuse lorries arriving on site.

5 WASTE FORECASTS

Office Waste Forecast

- 5.1 As detailed in Section 1, the proposed development comprises 36,494m² GIA and 26242m² NIA of office floor space. The waste forecasts for the office space have been derived from GD04, B25906:2005 (Waste Management in Buildings - Code of Practice) and is also informed by other surveys of developments undertaken by Vectos. In general, these rates are robust as they are based on surveys when offices generated much greater volumes of paper and this has reduced as businesses have become more digital. However, these rates will still be used for robustness.
- 5.2 This bases weekly waste generation on an estimation of 1 occupant per 10m² NIA and 50 litres of waste generated per occupant. Applying this to the total proposed office floor space equates to the below calculation of weekly waste:

$$(26,242\text{m}^2 / 10 = 2624) * 50 = 131,240 \text{ litres per week}$$

$$= 26,242 \text{ litres per day}$$

Waste Recycling Proportions

- 5.3 Waste stream proportions vary according to land use. The data on expected office and commercial waste streams is derived from a variety of sources, including WRAP studies of waste, as well as surveys undertaken by Vectos.
- 5.4 The recycling proportions and associated waste generation for the office space are set out in **Table 5.1**. It can be seen that the development will generate 26242 litres of waste per day, and this equates to a total of 24 x 1100litre Eurobins and 6 x 240 litre wheeled bins for organic waste which will come from the kitchen areas on each floor. This provision of bins is based on a daily collection.

Table 5.1 Office Waste Recycling Rates

Office Recycling Streams	General Refuse	Organic	Paper/ Card	Plastic/ Metal/Glass	Total
	30%	5%	50%	15%	100%
Litres Per Day	7873	1312	13121	3936	26242
EuroBin lifts per Day	8		12	4	24
240litre bin lifts per Day		6			6

Flexible Commercial Unit Waste Forecast

- 5.5 On the ground floor of the office is a large flexible commercial unit of 320sqm and as described above the exact nature of this use is not known, however for robustness it is assumed to operate as a 150 cover restaurant which would manage its waste within its own demise and generate 4 waste streams, General, Organic, Paper/Card and mixed Plastic/Glass/Metal. This unit has a route out onto the service road where its bins can be collected.
- 5.6 A restaurant could be the most intensive waste producing land use and so we have based our waste forecasts on a 150-cover restaurant which would generate the following waste generations:

Flexible Commercial Unit Recycling Streams	General Refuse	Organic	Paper/ Card	Plastic/ Metal/Glass	Total
	10%	39%	22%	28%	100%
Litres per Week	1125	4433	2509	3184	11250
Litres per Day	225	887	502	637	2250
360litre bin lifts every day	1		2	2	5
240litre bin lifts per Day		4			4

Table 5.2 Flexible Commercial Unit Waste Forecasts

- 5.7 It can be seen that this type of unit would generate modest volumes of waste and if these used either 360litre or 240litre bins this would require 9 bins based on a daily collection.

Student Accommodation Waste Forecast

- 5.8 The waste forecasts for Student Accommodation have been based on a typical waste generation rate of 100litres per apartment per week. As all the units are single apartments this is considered robust. The weekly waste generation is forecast as below:

$$1014 \text{ apartments} * 100 \text{ litres} = 101,400 \text{ litres per week}$$

$$= 14,486 \text{ litres per day}$$

- 5.9 This represents a large volume of waste generated and reflects the large number of apartments. The allocation of this waste volume to the relevant waste streams is given in **Table 5.2** below.

Student Accommodation Recycling Streams	General Refuse (inc Organic)	Paper/ Card	Plastic/ Metal/Glass	Total
	51%	24%	24%	100%
Litres per Week	51827	24787	24787	101400
Litres per Day	7404	3541	3541	14486
EuroBin lifts every 2 days	13	6	6	26

Table 5.3 Student Accommodation Waste Forecasts

- 5.10 This table shows that 26 Eurobins are needed assuming that there is a collection every 2 days. On top of this we recommend an additional **2 x Eurobins** that can be used for waste that is either too large or is unsuitable to go down the waste chute.
- 5.11 At the end of term special arrangements may be required for additional waste to be collected with additional skip type bins in the service yard.

Residual Waste Processing

- 5.12 While the development will generate significant volumes of Residual Waste it is noted that the waste collection companies will recycle much of this waste at a Mechanical Recycling Facility and once that is processed the residual waste is sent to an Energy Recovery plant. Through this process only around 2% of material is not recycled or sent for energy recovery.

6 REFUSE STORAGE & COLLECTION

- 6.1 The number of refuse containers needed to store waste depend on collection frequency. The proposed waste storage and collection frequency for the development are now discussed.

Office Bin Store

- 6.2 The office bin store is shown in **Figure 6.1** below along with the short transfer route from the Goods Lift into the bin store and then onwards to the collection point along the service corridor. It is noted that the waste collections will typically be undertaken early in the morning before the cars are parked by commuters arriving for work.

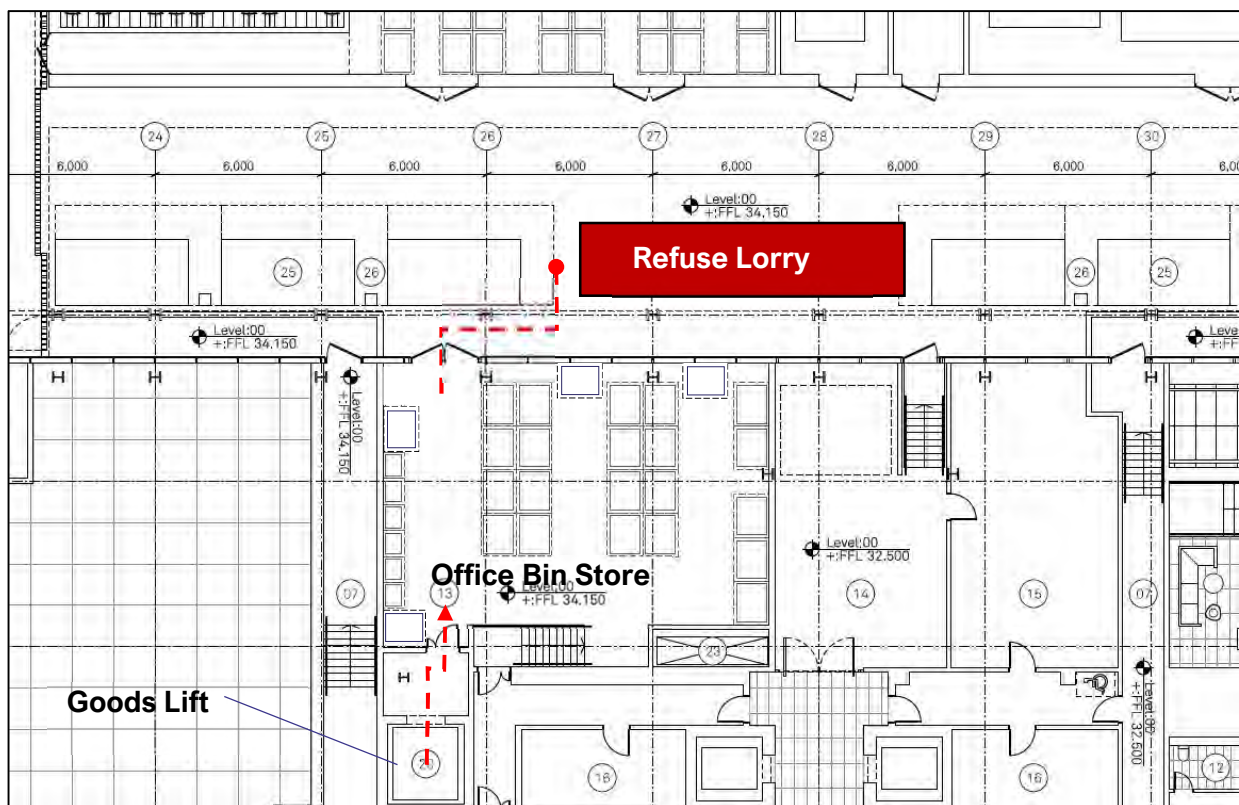


Figure 6.1 Office Bin Store and Waste Transfer Routes

- 6.3 It can be seen that this Bin Store can easily accommodate 21 x 1100litre Eurobins and 9 x 240litre bins plus additional space.

Flexible Commercial Unit Bin Store

- 6.4 As described previously, the flexible Commercial Unit would be stored within its own demise. Its waste would be transferred to the same collection point as the office bins.

Student Accommodation Bin Store

- 6.5 The bin store for the Student Accommodation is shown in **Figure 6.2** along with the transfer route to the collection point.

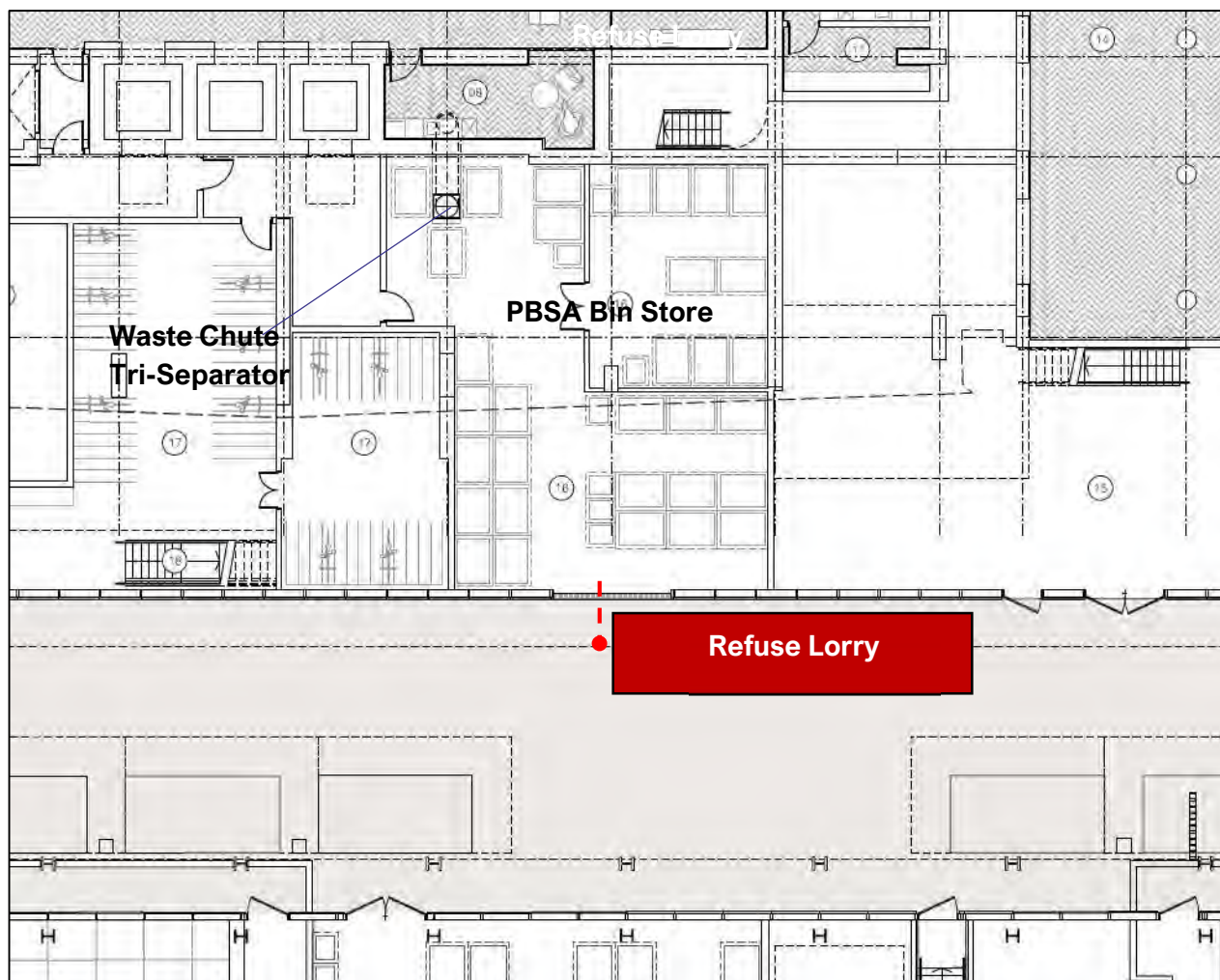


Figure 6.2 Student Accommodation Bin Store

- 6.6 It can be seen the Bin Store for the Student Accommodation offers space for 32x1100litre Eurobins and 7x240litre bins. This provision is greater than the forecast generation rates based on a collection every 2 days.

BREEAM Compliance

- 6.7 To obtain the BREEAM Credit for Operational Waste it is confirmed that the following measures will be in place:
- i) Bins (both within the occupier's demise and in the bin stores) will be clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams;
 - ii) The bin store will be accessible to the building occupants and in particular their cleaners as well as the on-site management team for the deposit of materials and collections by waste management contractors;
 - iii) As has been shown in this report, the bin stores are adequately sized to manage the volume of waste generated and the collection frequency;
 - iv) At this stage no compactor or waste processing is proposed but there is scope to do so should that be required;
 - v) The scheme provides sufficient storage for organic waste; and
 - vi) To assist in cleaning, bin stores will benefit from a water outlet.

Waste Proforma

- 6.8 MCC require that a Waste Pro-Forma be prepared to support the planning application. Using the information presented in this Section 2 and 3 of this report, this has been completed and is presented in **Appendix B**.

7 SUMMARY & CONCLUSIONS

Summary

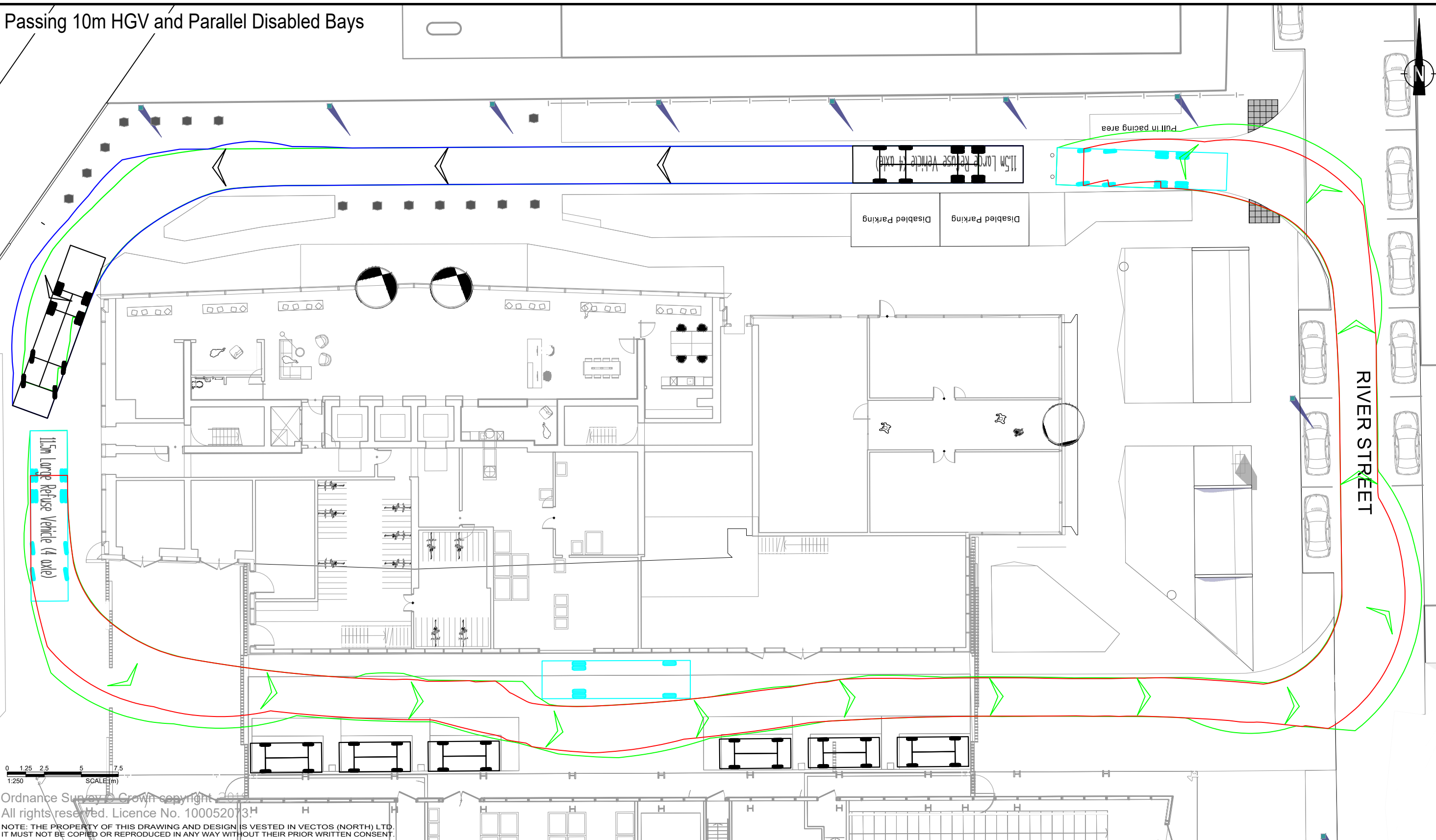
- 7.1 This document has been prepared in support of a planning application for the redevelopment of the existing Premier Inn site at One Medlock Street in Manchester City Centre to provide a commercial office building and purpose-built student accommodation (PBSA) building.
- 7.2 The proposals are for the demolition of the existing hotel building and structures and the development of the site for commercial (Use Class E) and purpose-built student accommodation (Sui Generis) comprising two separate buildings, along with associated ancillary internal and external amenity space, hard and soft landscaping and associated highway works.
- 7.3 This report has also set out a servicing strategy for the development including the number of vehicles expected throughout the day.
- 7.4 It has set out the likely waste generation for the development and associated refuse storage provision. It has set out the management strategy for that waste and its collection along with a recycling strategy. This report has demonstrated that there is sufficient waste storage provision.

Conclusion

- 7.5 It is concluded that the refuse storage, waste management and collection proposed is appropriate for this scale of development and that waste collection can be undertaken in an efficient manner.

Drawings

Passing 10m HGV and Parallel Disabled Bays



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REV.	DETAILS	DRAWN	CHECKED	DATE

Notes:

- This is not a construction drawing and is intended for illustrative purposes only.
- White lining is indicative only.

11.5m Large Refuse Vehicle (4 axle)
Overall Length 11.500m
Overall Width 2.500m
Overall Body Height 3.750m
Min Body Ground Clearance 0.304m
Track Width 2.500m
Lock to lock time 6.00s
Wall to Wall Turning Radius 11.330m

Premier Inn, River Street

Swept Path Analysis - Refuse Vehicle

DRAWN: CG	CHECKED: GD	DATE: 11.10.22	SCALES: 1:250 at A3
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Ask Real Estate Ltd

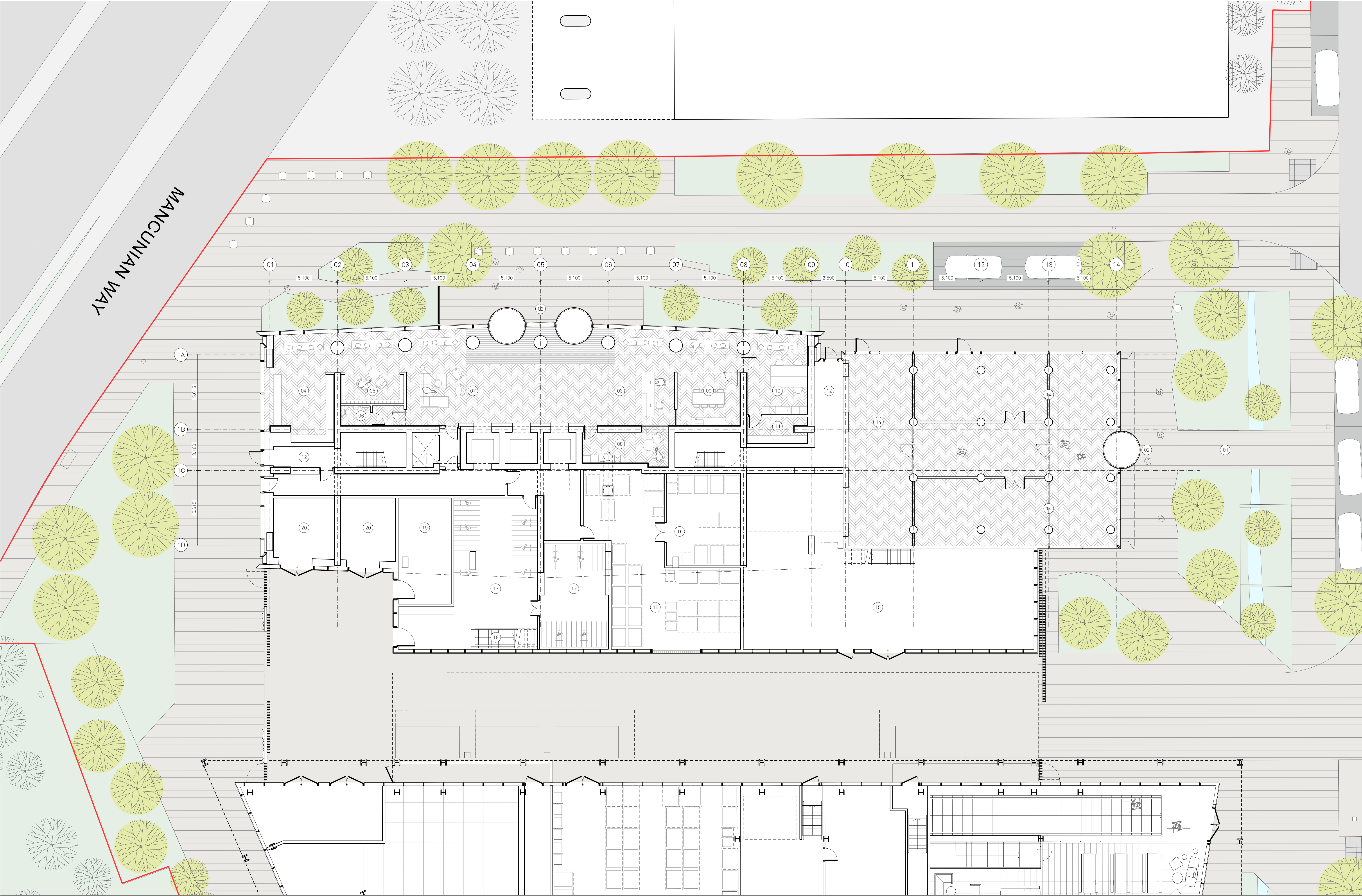
vectos.

4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ
0161 228 1008 e: manchester@vectos.co.uk

DRAWING NUMBER: VN91290 TR116	REVISION: .
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Appendix A

Development Plans



Notes:

PLAN KEY:

- | | | | | | | |
|------------------|---------------|-----------------|------------------|---|-------------------|------------------------------------|
| 01 Public realm | 04 Post room | 07 Waiting area | 10 Main office | 13 Potential space required for commercial sprinkler tank | 16 Plant | 19 Stairs to mezzanine cycle store |
| 02 Main entrance | 05 Post boxes | 08 Staff room | 11 Security room | 17 Refuse area | 18 LV Switch room | 20 Substation |
| 03 Reception | 06 WC | 09 Meeting room | 12 Escape route | 14 Community space | 17 Cycle store | |

NOTES:

All structural / service coordination ongoing and to be developed post issue. All structural sizes TBC by SE

Project Name:

One Medlock

Street

Drawn: HM

Checked: JM

Details:

E

Title:

Block B Ground Floor

General Arrangement Plan

Status:

Planning

Project:

100

Scale:

1:125 @ A1

Drawing No:

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Rev:

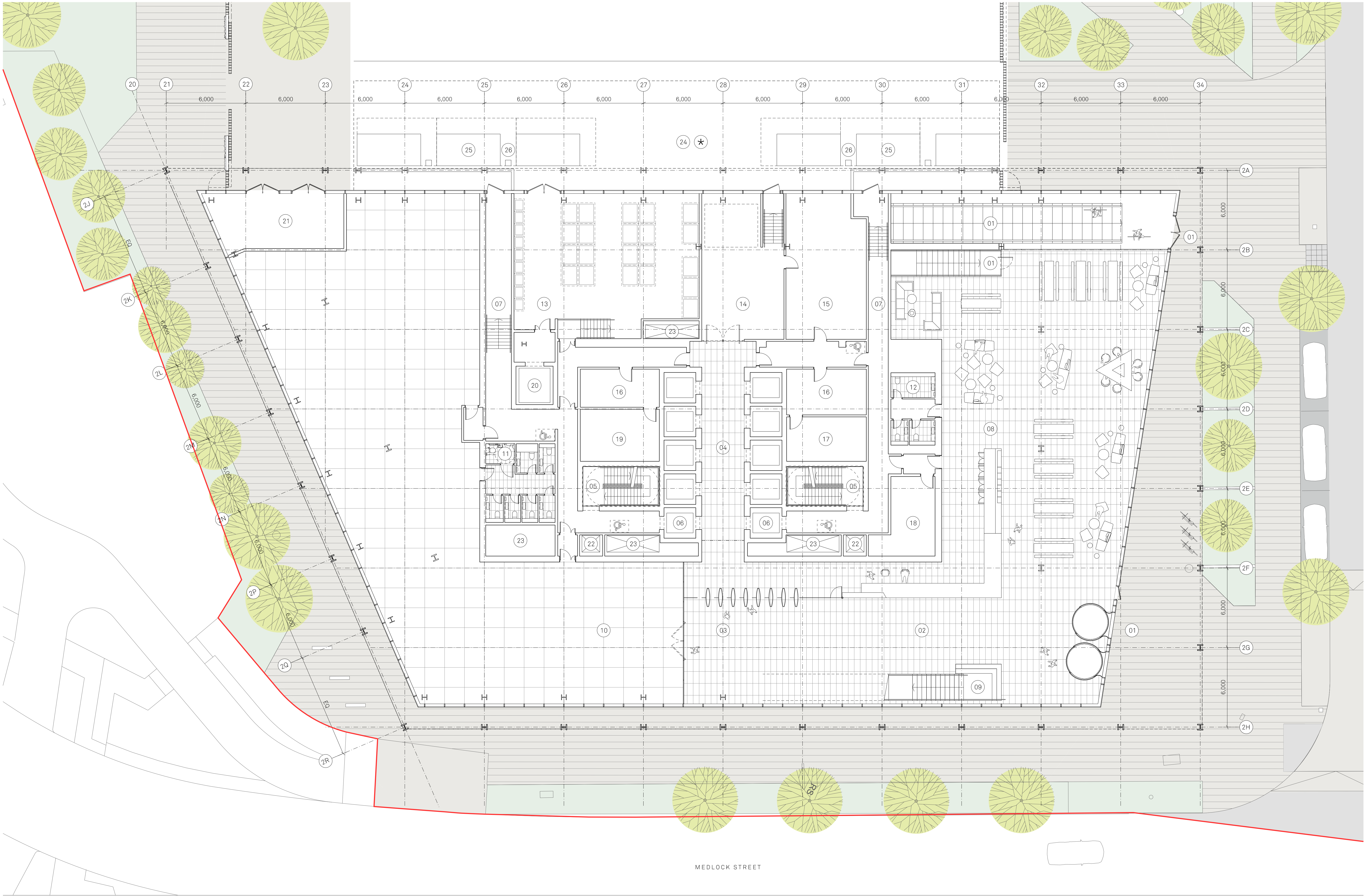
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Appendix B

MCC Waste Proforma

Appendix E

Proforma for Planning Applications



MANCHESTER
CITY COUNCIL

Planning Application - Waste Management Strategy

Planning Application Number: To be confirmed

Date Submitted:

Estimated volumes/ m² required by the development

Low Rise Domestic

Waste Types	Capacity Required (litres)	Number of bins required per household	Confirm what is to be provided
General refuse	140 / 240	Not applicable for this application.	Not applicable for this application.
Pulpable Recycling	140 / 240	Not applicable for this application.	Not applicable for this application.
Mixed Recycling	140 / 240	Not applicable for this application.	Not applicable for this application.
Garden Waste	140 / 240	Not applicable for this application.	Not applicable for this application.
Food Waste	-	Not applicable for this application.	Not applicable for this application.

High Rise Apartment Developments

	Yes/No - how much space has been provided?
0.43m ² has been provided per apartment for the container space. Space to maneuver and access containers individually has also been provided so that each container can be accessed and removed for collection individually.	

Please state number of bins you propose, showing calculations where appropriate.

Waste Assumptions

Office Waste Assumptions

For office-based waste, we have used the BS5906:2005 calculation of 50 litres of waste per office worker per week. The occupancy is based on 1 worker every 10 sqm NIA.

- 50 litres of waste generated per person per week

Applying this calculation to the development size of 26,242m² NIA proposals provides the following weekly waste generation:

- Weekly Waste = 2624 people x 50 = **131240 litres per week or 26242 litres per day**

Student Accommodation Waste Assumptions

The forecast of the weekly waste generation is based on a rate of 100 litres of waste per week. Applying this calculation to a development size of 1014 apartments, the development proposals provides the following weekly waste generation:

- Weekly Waste = 1014 x 110 = **101,400 litres per week or 14486 litres per day**

Block A Flexible Commercial Space Waste Assumptions

There is a flexible commercial space on the ground floor of the office development. As the land use is not known we have only made an initial robust assessment based on a 150 cover restaurant. These may generate 75 litres of waste per cover per week and generate waste as below:

- Weekly Waste = 150 x 75 = **11250 litres per week or 2250 litres per day**

Block B Flexible Community Space Waste Assumptions

There is a flexible community space within the PBSA covering 293 sqm. The use of this space will be variable and as a general waste forecast we have used a rate of 10litres per sqm per week as below:

- Weekly Waste = 293 x 10 = **2930 litres per week or 586 litres per day**

Recycling of Waste

Waste stream proportions vary according to land use. The data on expected residential and commercial waste streams comes from a variety of sources, including WRAP studies of waste, as well as surveys undertaken by Vectos. The waste recycling for the Student Accommodation land use is affected by the use of a tri-separator so we expect that much of the organic waste will be added to the general waste stream, however a organic recycling scheme will be set up for residents to bring this waste to the bin store. The forecasts are given below:

Office						
Person Forecast						
Office Area (NIA)	26242 sqm	@	2624 people based on 10sqm per person NIA			
Weekly Waste Forecast						
BS5906:2005 50 litres per employee per week						
= 2624 persons x 50 litres per week						
= 131210 Litres of waste per week						
26242 Litres of waste per day						
	Office Recycling Streams	General Refuse	Organic	Paper/ Card	Plastic/ Metal/Glass	Total
		30%	5%	50%	15%	100%
	Litres Per Day	7873	1312	13121	3936	26242
	EuroBin lifts per Day	8		12	4	24
	240litre bin lifts per Day		6			6

Block A Flexible Commercial Unit						
Area 320 sqm						
Weekly Waste Forecast						
Broad assumption of a restauramnt with 150 covers @75 litres per cover per week						
= 11250 litres per week						
= 2250 litres per day						
	Flexible Commercial Unit Recycling Streams	General Refuse	Organic	Paper/ Card	Plastic/ Metal/Glass	Total
		10%	39%	22%	28%	100%
	Litres per Week	1125	4433	2509	3184	11250
	Litres per Day	225	887	502	637	2250
	360litre bin lifts every day	1		2	2	5
	240litre bin lifts per Day		4			4

Student Accomodation						
Dwellings 1014						
Weekly Waste Forecast						
GD04 Waste Forecast (110 litres per Apartment per Week)						
= 101400 litres per week						
= 14486 litres per day						
	Student Accommodation Recycling Streams	General Refuse (inc Organic)	Paper/ Card	Plastic/ Metal/Glass	Total	
		51%	24%	24%	100%	
	Litres per Week	51827	24787	24787	101400	
	Litres per Day	7404	3541	3541	14486	
	EuroBin lifts every 2 days	13	6	6	26	

Block B Flexible Community Space

Area 293 sqm

Weekly Waste Forecast

Broad assumption of a 10 litres per sqm per week

= 2930 litres per week

= 586 litres per day

	Flexible Community Space Recycling Streams	General Refuse	Paper/ Card	Plastic/ Metal/Glass	Total
		50%	25%	25%	100%
	Litres per Week	1465	733	733	2930
	Litres per Day	293	147	147	586
	360litre bin lifts every 2 days	2	1	1	4

Has / will a contract be obtained with a licensed waste carrier?

Yes

Mixed Use Developments

Are the stores for residential and commercial separate from each other?

Yes

Internal Stores

Please provide details of internal stores / segregation of waste and recycling.

Office Waste

The main volume of waste generated will come from the office workers. The largest component of office waste will be paper, but we recognise that many occupiers are reducing the volume of paper used through different working practices and this will help reduce the volume of waste generated. The expected bin provision is indicated below:

In addition to the above we expect some other smaller waste streams to be generated but managed separately. That waste can include:

Electrical WEEE items (waste electrical and electronic equipment) - Returned to supplier

Printer & Toner Cartridges - Typically posted to supplier for recycling

Batteries – Set up Battery collection point(s). Arrange for Free collection e.g. BatteryBack

The bin stores at each office level is assumed as follows:

At the end of the desk:

Paper

General waste



Reception:

Batteries

WEEE

Printer cartridges

General Waste



Kitchen:

Food Waste Caddy

General Waste

Mixed recyclables (Plastic/Metals)

Glass

Central Locations in Office (as required):

Mixed Recyclables (Plastic/Metals)

Confidential paper

Paper/Cardboard

General waste

Confidential Waste



Block A Flexible Commercial Unit Waste

It is not possible at this stage to identify the waste stores with the commercial unit. It will be provided with the demise of that unit.

Student Accommodation Waste

Within each apartment there will be 3x separate bins and bags colour-coded to help recycling.

Occupiers will be encouraged to separate waste at the source to aid recycling. The development will benefit from a refuse chute.

The residential waste collection benefits from a tri-separator waste chute from the upper floors. Residents or their cleaners would take the waste from their apartment bins to the refuse chute lobby on their floor. They would select the type of waste stream: General & Foodwaste, Pulpable, Mixed Recyclables and that would be directed to a tri-separator on the ground floor. This would be collected in 1100 litre Eurobins beneath the tri-separator and when full those bins would be swapped over for empty bins by the on-site management team. An example of a waste chute is provided in **Figure 1**.

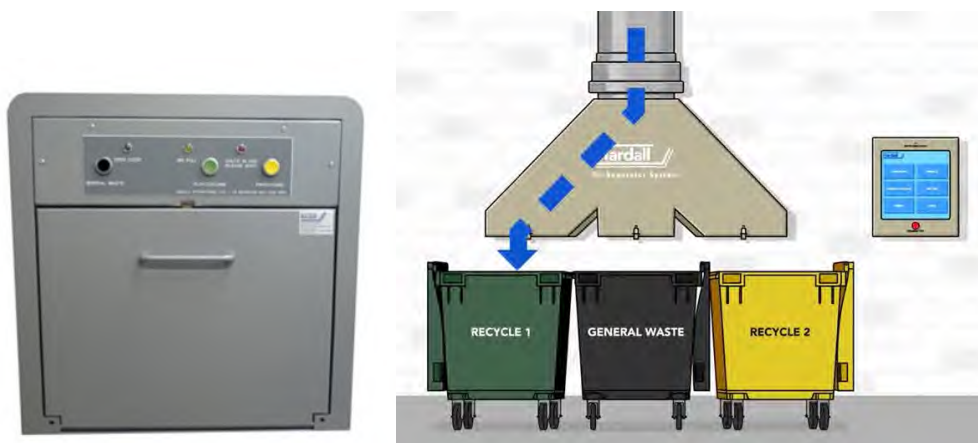
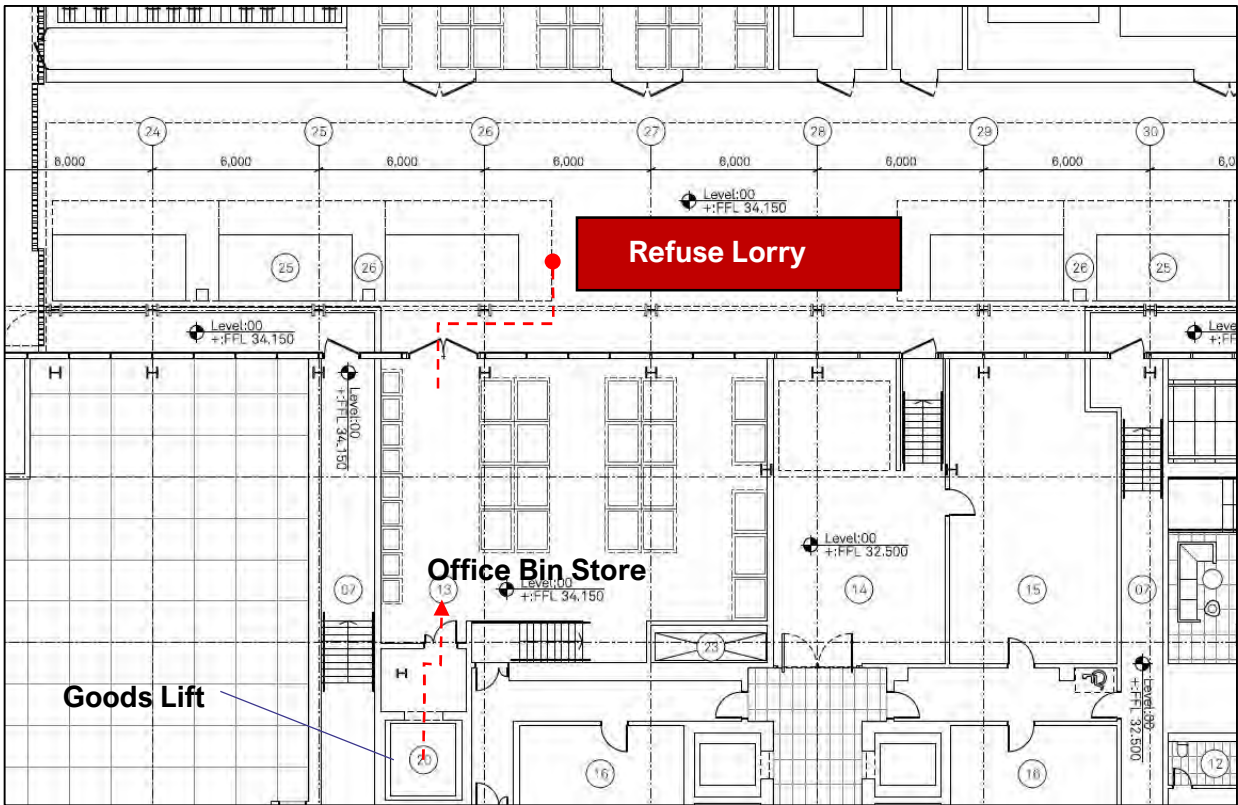


Figure 1: Three Way Waste Chute Panel and Tri-Separator

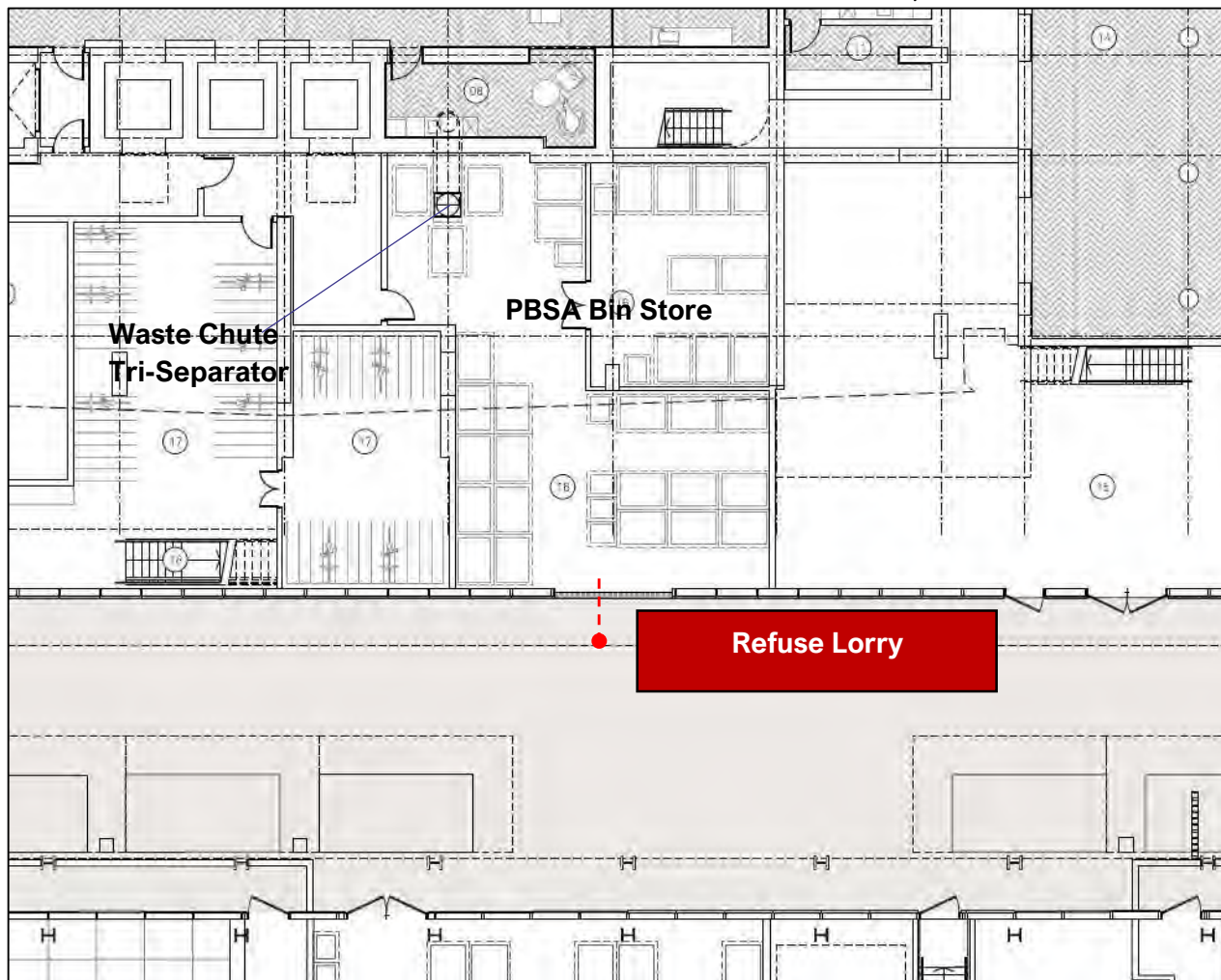
Storage Areas for Waste Containers

Please provide details of container stores, attaching plans if appropriate.

The office refuse store is shown below. This holds 21 Eurobins and 9 x 240litre bins



The Student Accommodation is shown below. It holds 32 Eurobins and 8 x 240/360litre wheeled bins



Please confirm details of waste store ventilation and hygiene / cleaning proposals

Ventilation

The bin stores will be mechanically ventilated.

Hygiene

The floor and walls of the refuse stores across the site will be constructed and finished in materials that are impervious and easily kept clean. Overall waste management would be undertaken by the on-site staff member/management company who would monitor the cleanliness on a regular basis and would ensure that all areas of the site are kept clean as required.

Ensure all bins in the store are accessible

Generally, the refuse store will not be accessible by the students or office workers unless escorted. However, the bins are accessible to the occupiers and their cleaners. The bin storage area includes space for maneuvering and the doors are designed to be wider than the 1.3m minimum.

Y

Ensure recycling facilities are as easy to access as general refuse

Y

Please provide details of who will be responsible for placing the bins at the collection point and returning them to the store / property promptly e.g. resident/ management company.

The on-site staff overseen by the Buildings Management.

The Office waste, Student Accommodation and Flexible Commercial/Community Space waste will be collected by a private contractor as required, with regular collections on a daily or every other day basis.

The refuse collection company operatives would take the bins from the bin store to the vehicle and will return the bins to the bin store immediately after collection has taken place. This would be under the direction of the General Manager.

Please ensure that you have attached:

Detailed plans of waste stores	Y – please see site layout plans
Location plans showing stores	
Location plans showing the proposed collection point and the route the collection vehicle will take	Y – detailed within this Proforma

Please ensure that you have completed this form in accordance with our GD04 Waste Storage and Collection Guidance for New Developments.

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