#### Hardman House Development

Hardman Street

Liverpool

11.08.17 Page 1 of 4 Refuse Strategy

# **Refuse Strategy** Refuse Provision Calculation

## **Commercial Retail Units**

As the ground floor retail units do not have tenants allowing us to obtain definitive information regarding the Planning Classes the waste calculations for this document have been based on assumptions below.

- Calculations for all the units been undertaken for occupation as a retail unit and also as a restaurant.
- Waste will be collected in 1100l Euro bins
- No waste calculations have been undertaken for the use of a compactor or cardboard baler.
- Each Euro bin has been given a floor space of 1575 x 1190
- Each Euro bin has been allowed a floor space of 1575 x 1190 indicated by the blue line drawn around each bin
- A walkway between the rows of bins of 1300mm.
- The doors into the bin store will have a clear opening of 1300mm.
- Recycling bins have been shown in blue and non-recyclable shown in white.

It is envisaged that the frequency of visits for waste removal including waste recycling will adhere to Liverpool City Council current waste management strategy which involves a two-week cycle:

- Week 1 all bins including both non-recyclable and recyclable will be collected
- Week 2 50% of the bins including both non-recyclable and recyclable will be collected

In accordance with LCC calculations the typical weekly waste arising for the development is calculated by the following formula:

**Retail units-** 5000 litres per 1000m2 gross floor space with 50% retained for recycling **Restaurants and fast Food Outlets - 1**500 litres per 20 covers/dining spaces, recycling percentage will vary

Hardman House Development	11.08.17 Page 2 of 4
Hardman Street	Refuse Strategy
Liverpool	
Retail unit 1	
Restaurant -	200sqm (a third is consider to be kitchen) =133sqm
	133sqm area @ 1sqm per diner = 133 covers
	1,500l waste generated per 20 covers
	133 covers / 20 = 6.6
	1,500l x 6.6 = 10,000l
	10,000l waste per week / 1100l bin
	= 9No bins required
Retail -	200sq area @ 5,000l waste produced per 1000m2 floor area = 5l per sqm
	200sqm x 5l = 1,000l waste produced
	= 1No bin required

Due to the absence of tenant information we have taken the average between the two calculations which has resulted in 7No bins required weekly

Retail unit 2	
Restaurant -	178.86sqm (a third is consider to be kitchen) =119sqm
	119sqm area @ 1sqm per diner = 119 covers
	1500l waste generated per 20 covers
	119 covers / 20 = 5.9
	1500l x 5.9 = 8943l
	10000l waste per week / 1100l bin
	= 8.13 No bins required
Retail -	178.86sq area @ 5000l waste produced per 1000m2 floor area = 5l per sqm
	178.86sqm x 5I = 894.3I waste produced
	= 1No bin required

Due to the absence of tenant information we have taken the average between the two calculations which has resulted in 8No bins required weekly

Bin store for Retail 1 and 2 is positioned adjacent to the Fly in the Loaf Public House

Hardman House Development	11.08.17 Page 3 of 4
Hardman Street	Refuse Strategy
Liverpool	
Retail unit 3	
Restaurant -	139.62sqm (a third is consider to be kitchen) =93.08sqm
	93sqm area @ 1sqm per diner = 93 covers
	1500l waste generated per 20 covers
	93 covers / 20 = 4.6
	1500l x 4.6 = 6981l
	10000l waste per week / 1100l bin
	= 6.34No bins required
Retail -	139.62sq area @ 5000l waste produced per 1000m2 floor area = 5l per sqm
	139.62sqm x 5l = 698.1l waste produced
	= 1No bin required

Due to the absence of tenant information we have taken the average between the two calculations which has resulted in 5No bins required weekly

Should Retail unit 3 required more waste storage an agreement will be made to share the bin store adjacent Retail unit 4 which has surplus waste storage available.

Retail unit 4	
Restaurant -	108.68sqm (a third is consider to be kitchen) =71.77sqm
	71.77sqm area @ 1sqm per diner = 72 covers
	1500l waste generated per 20 covers
	72 covers / 20 = 3.6
	1500l x 3.6 = 5383l
	10000l waste per week / 1100l bin
	= 4.89No bins required
Retail -	108.68sq area @ 5000l waste produced per 1000m2 floor area = 5l per sqm
	108.68sqm x 5l = 543.4l waste produced
	= 1No bin required

Due to the absence of tenant information we have taken the average between the two calculations which has resulted in 6No bins required weekly

Hardman House Development	11.08.17 Page 4 of 4
Hardman Street	Refuse Strategy
Liverpool	
Retail unit 5	
Restaurant -	94.11sqm (a third is consider to be kitchen) =62.74sqm
	62.74sqm area @ 1sqm per diner = 63 covers
	1500l waste generated per 20 covers
	63 covers / 20 = 3.1
	1500l x 3.1 = 4705l
	10000l waste per week / 1100l bin
	= 4.27No bins required
Retail -	94.11sq area @ 5000l waste produced per 1000m2 floor area = 5l per sqm
	94.11sqm x 5l = 470.55l waste produced
	= 1No bin required

Due to the absence of tenant information we have taken the average between the two calculations which has resulted in 6No bins required weekly

## **Residential units – Multi-occupation**

Waste generated per person per week = 80I Adopting LCC two-week policy Maximum No of residents = 355 students

Therefore:-

355 x 80l = 28,400 l waste produced weekly with full occupation.
28,400 l waste / 1100 Euro bin requires 26 No bins per week
Using the two - weekly cycle for bin collection 26 No bins x 1.5 = 38No Euro bins required to accommodate a two-weekly cycle collection. 50% of the bins will be for recyclable waste.

We have currently shown 36No bins for student use.

## Summary

The total number of Euro bin spaces in the development is 69No @ 1100 l for both Retail and student accommodation.