TEMPLAR HOUSE

DELIVERY SERVICING MANAGEMENT PLAN

JULY 2015

NORTHWOOD INVESTORS

ASTUDIO

Northwood Investors

Templar House

Delivery Servicing Management Plan

REP/AEB/002

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1 Introduction

The purpose of this report is to define a management plan for delivery and servicing activities to Templar House.

1.1 Development Proposal

The development entails demolition of the existing building, creation of 2 land uses on the site, and erection of two new buildings. The commercial building will be accessed via High Holborn and include class B1 office space and Class A1/A3 retail space. The residential building will include 48 class C3 dwellings accessed via Eagle Street. The overall solution will include public realm improvements, a car free development, cycle provision for all use types, and other ancillary works.

The area schedule is shown in Table 1.

Commercial Area Schedule		
Land Use	**Area GIA (m^2)**	**Area NIA (m^2)**
Office (B1)	16,585	10,515
Retail (A3)	607	578
Residential (C1)	6,243	3,369
Total	**23,435**	**14,462**

Table 1 Templar House Area Schedule

Templar House will receive different types of deliveries throughout the day as well as a diverse range of collections. It will be the responsibility of the site facilities management (FM) team to co-ordinate all of these deliveries within a restricted operating timeframe. This will ensure that noisy or disruptive activities are kept to a minimum and to acceptable times of the day.

1.2 Purpose

This Delivery Servicing Plan (DSP) report sets out the measures that will be adopted by Templar House in order to minimise the impact of activities on the neighbouring environment associated with deliveries, servicing, waste management and storage within the building. The key objectives in the development of the DSMP are therefore:-

- Minimising the environmental impact on the surrounding area by implementing a suitable management plan; and
- Providing servicing arrangements for the building which meet road management and safety requirements.

This report will be submitted as part of the planning application required by London Borough of Camden (LBC).

1.3 What is a Delivery Servicing Plan (DSP)

A DSP is a plan setting out a package of measures to be adopted by the Owner and approved by the Council from time to time for the management of the deliveries and servicing to the Development (include loading and unloading) securing the minimisation of conflicts between service vehicle and car and pedestrian movements and the minimisation of damage to amenity from such servicing and deliveries which shall include inter alia the following:

- A requirement for delivery vehicles to load and unload from specific suitably located areas
- Measures to ensure that servicing of the Property does not take place on street
- Details of the person/s responsible for directing and receiving deliveries to the Property
- Measures to avoid a number of delivery vehicles arriving at the same time
- Likely frequency and duration of servicing movements and measures to be taken to avoid any conflicts
- Likely nature of goods to be delivered
- The likely size of the delivery vehicles entering the Property
- Measures taken to ensure pedestrian management and public safety during servicing including a statement setting out how highway safety will be maintained during servicing movements
- Measures taken to address servicing movements on and around the Property with a view inter alia to combining and/or reducing servicing and minimise the demand for the same
- Details of arrangements for refuse storage and servicing
- Identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update as required from time to time.

1.4 DSP Structure

The DSP is divided into the following chapters:

Section 2 – Servicing and Deliveries

Section 3 – Delivery and Servicing Strategy

Section 4 - Commercial Waste Management Strategy

Section 5 – Residential Waste Management Strategy

Section 6 – Waste Collections

Section 7 - DSP Review and Management

2 Servicing and Deliveries

This chapter sets out the number of deliveries, nature and type of vehicle and servicing access to Templar House.

2.1 Vehicle Generation

Delivery and servicing vehicle trips for Templar House were calculated using an Arup in-house vehicle generation tool developed to utilise Arup research and other survey information from similar developments in London and the United Kingdom.

Delivery and servicing vehicle arrival calculations undertaken for this building provide an estimate of 49 deliveries per day with a peak arrival of five vehicles in the 9am-10am period. This indicates a requirement for a single loading bay to manage this peak demand.

2.2 Size of Servicing Vehicles

As for many developments within central London servicing trips to the site are anticipated to be made by 6m transit vans with the remainder of the deliveries by 8m. The characteristics and assumed turnaround time, by vehicle type, are shown in Table 2.

Vehicle Type	Vehicle	Characteristics	Turnaround Time (minutes)
LGV – Light Goods Vehicle		3.5 Tonne, vehicle length 6m	10 - 15
MGV – Medium Goods Vehicle		7.5 Tonne, vehicle length 8m	20

Table 2 Turnaround Times for Delivery Vehicle Types

Due to the space available within the service area, the maximum size of vehicle able to enter the service area will be an 8m rigid goods vehicle. Suppliers will be instructed to arrange deliveries to the office and retail tenants using 6m vans and 8m rigid vehicles only. This will be written into the site Management Plan and Tenant guidelines.

2.3 Servicing Access

Servicing will be conducted off-street within a service area accessed from Eagle Street, as shown in Figure 1.

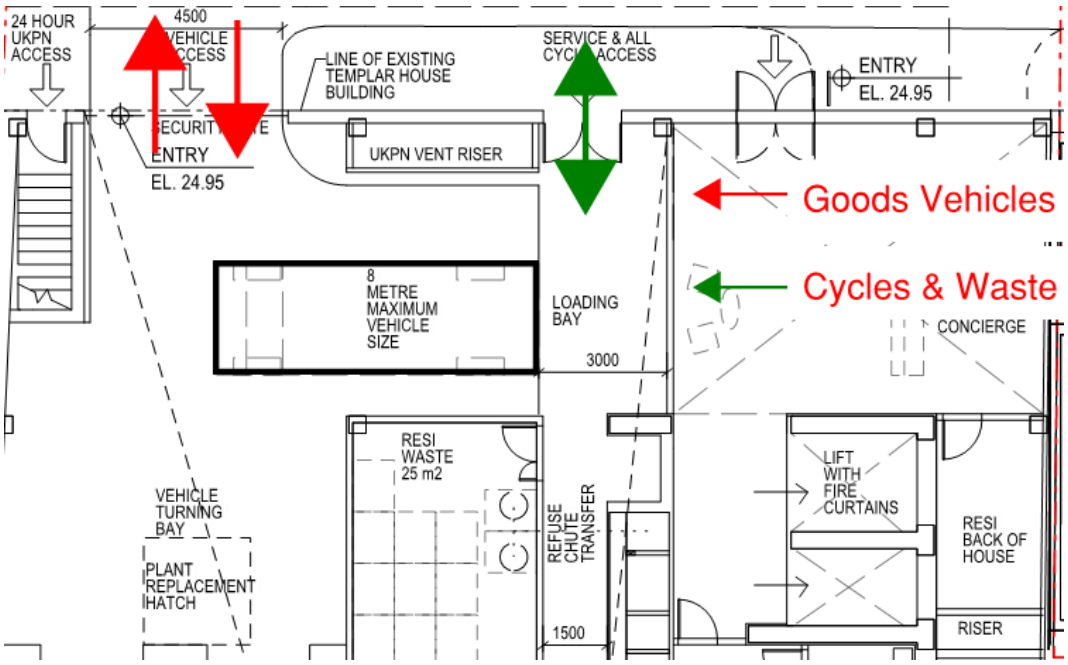

Figure 1 Templar House Service Area

Delivery vehicles will enter and leave the building in forward gear only and will be in accordance with LBC design guidelines.

2.3.1 Swept Path Tracking

Appendix A shows the swept path tracking for the vehicles presented in Table 3.

Vehicle	Location	Drawing Number	Issue
8m Rigid Goods Vehicle	Loading Bay	237116-00-001	I1

Table 3 Swept Path Tracking

3 Delivery and Servicing Strategy

3.1 Nature of Goods to be Delivered

3.1.1 Commercial Deliveries

Deliveries for office and retail facilities fall into the following categories:

- Building services (furniture, vending, photocopying / IT servicing, general supplies and refuse)
- Mail (external Post Office deliveries, courier operations and internal deliveries)
- Equipment and furniture deliveries
- Post and parcel deliveries (including courier deliveries)
- FM/service/maintenance engineer visits
- Food and beverage supplies (e.g. beverages, ambient, chilled and frozen food products, general goods) to food retailers and caterers.

Goods will be delivered in the following ways:

- Food and beverage deliveries are often palletized, or delivered in plastic/wooden crates or trolleys, or boxed in roll cages
- Equipment and furniture is sometimes wrapped in plastic or delivered in cardboard boxes.

The list above is indicative of deliveries common to office and retail land uses. Businesses, retailers and retail chains will have their own specific goods and material requirements. The site FM team (on behalf of the land lord) will be responsible for revising this DSP within 12 months of occupation to provide details of these deliveries.

3.1.2 Residential Deliveries

Deliveries for office and retail facilities fall into the following categories:-

- Mail (external Post Office deliveries, courier operations)
- Supermarket deliveries
- Furniture deliveries
- Home removals
- Service engineer visits.

3.2 Security

Vehicle arrivals will be controlled by a vehicle booking-in system and vehicles will not be permitted to queue on the public highway. The loading bay will be able to cope with the number of expected deliveries and efficient management will ensure that unexpected peaks in service vehicle visits can also be accommodated. The service area will be controlled by a roller shutter door.

3.3 Noise Impact

A range of measures will ensure that the impact of noise on the local residents and employees will be kept to a minimum. These measures include:

- All loading and unloading activities to be undertaken within the building
- External doors to the servicing area to be kept closed except to allow vehicles to arrive and leave
- Optimisation of traffic flow through the proposed booking system in order to avoid on-street queuing.

A suitable booking-in system for all deliveries will be used by the facilities management team. Scheduling can be used to help with two functions: firstly to reduce the typical morning peak that occurs at office developments (by moving deliveries to other times); and secondly to improve the speed of security checks by knowing who is coming and when. Both of these functions will reduce the impact of deliveries on the surrounding roads. This will be strictly enforced by the site management team.

The booking-in system could also be used to record vehicles leaving, stay duration, etc., which can then be used to monitor the efficiency of the booking system and suggest where improvements can be instigated.

3.4 Courier Deliveries

Cycle couriers will report to the office reception for processing and delivery instructions.

3.5 Operational Goods Handling Procedure

The day to day management of incoming goods and consignments will be the responsibility of the FM team under the control of the Dock Master. The role of the FM team will be to:

- Notify regular suppliers and pre-booked couriers of the loading restrictions and provide a map showing the loading facilities (including restrictions on vehicle size), building access points and directions to the development from main arterial routes
- Arrange suitable delivery times with each delivery firm and off-peak collections of commercial waste

- Accept all deliveries to the relevant occupier (commercial and residential) or arrange for other members of staff to accept receipt
- Ensure that appropriately sized/utilized, secure storage is available within the layout of the commercial and retail space to accommodate the expected delivery volumes
- Monitor and record all delivery activity (time/date of arrival/departure, vehicle type, consignment type, delivery company) and inform/warn drivers should any deliveries be made during restricted hours
- Feedback information to the building management team.

The FM team will collate delivery information into an overall delivery profile and:

- Work with individual tenants, as necessary, to ensure that delivery firms adhere to loading restrictions
- Identify any peaks in delivery activity and liaise with tenants to determine whether these peaks can be smoothed (particularly any peaks that coincide with peak highway flows) by scheduling non-time critical deliveries outside these times
- Identify where multiple suppliers/collection firms are used for the same bulk commodities (e.g. paper, bottled water and waste) and discuss the potential for use of common firms with the relevant tenants
- Retain records for a rolling 12 month period in order to inform any future discussions that may be required with LBC.

The above measures will ensure efficient servicing to benefit the development occupiers/owners, neighbouring occupiers of other buildings and users of the local transport infrastructure by minimising the number and dwell times of delivery and servicing vehicles.

4 Commercial Waste Management

Waste generation and storage requirements have been determined with reference to the following publications:

- British Standard 5906:2005 Waste management in buildings – code of practice Waste Storage Requirements
- Camden Planning Guidance, Design, Chapter 10, Waste and Recycling Storage
- A guide to Developers of Commercial and Residential Premises in the London Borough of Camden, May 2005.

4.1 Assumptions

The following assumptions have been applied to calculate commercial waste generated within the development.

- Office staff density 8m^2/per person NIA
- Office staff generate 50 litre of waste per week
- A3 retail sales area 67% of NIA
- A3 retail cover is equal to 1.5m^2 NIA
- A3 retail cover generates 75 litres per week
- On-site facilities management (FM) team to process waste through the day
- Office and A3 retail share a common waste store and waste disposal
- Two day waste storage has been provided (for resilience) based on daily waste collections.

4.2 Waste Generation and Storage

Applying the assumptions stated above, Commercial waste generation for the building is provided in Table 4.

Templar House – Two Day Waste Generation			
Waste Stream	**A3 Retail**	**B1 Office**	**Total**
Residual	2.56	5.26	7.82
Paper	0.00	17.09	17.09
Cardboard	0.45	1.84	2.29
Plastic	0.32	1.58	1.90
Aluminium	0.26	0.53	0.78
Glass	0.51	0.00	0.51
Food waste	2.31	0.00	2.31
Total	**6.41**	**26.29**	**32.70**

Table 4 Commercial Waste Generation (two days)

To reduce the storage space required for non-recoverable waste, a 1,100 litre euro bin compactor (such as Pakawaste LF1100) will be used to compact waste to allow a greater volume of waste to be stored in a fewer number of euro bins. A compaction ratio of three has been used in the calculations and the compaction achieve is shown in Table 5.

Templar House – Compaction Commercial Refuse						
Waste Type	**Un-compacted Volume (m^3)**	**Compaction Ratio**	**Compacted Waste (m^3)**	**Waste Container**		
				Description	**Volume (m^3)**	**Number Required**
Refuse	7.82	3	2.61	1,100 litre Eurobins	1.10	3

Table 5 1,100 litre Euro Bin Waste Compaction

A twin baler will be used to compact paper, cardboard and plastics. Metal cans and glass will be stored in 360 litre eurobins. Food waste will be stored in 240 litre eurobins. The combined waste storage requirements are outlined in Table 6.

Templar House – Two Day Waste Storage					
	Volume No Compaction (m^3)	**1,100 litre bins**	**360 litre bins**	**240 litre bins**	**100 kg Bales**
Residual	7.82	3	-	-	-
Paper	17.09	-	-	-	9
Cardboard	2.29	-	-	-	3
Plastic	1.90	-	-	-	1
Aluminium	0.78	-	3	-	-
Glass	0.51	-	2	-	-
Food waste	2.31	-	-	10	-
Total	**32.70**	**3**	**5**	**10**	**13**

Table 6 Commercial Waste Storage (two days)

Commercial waste will be stored in two waste stores located at ground floor level.

The first, sized at 49.1m^2 (9.64m x 5.10m) will hold:-

- 1 No. 1,100 litre wheelie bin compactor
- 1 No. 100kg baler
- 1 No. Hand pallet truck
- 3 No. 1,100 litre eurobins for the storage of compacted residual waste
- 7 No. 1,200mm x 1,000mm pallets (two bales per pallet)
- 4 No. 660 litre eurobins for pre-baled waste.

An indicative layout of this waste store is shown in Figure 2.

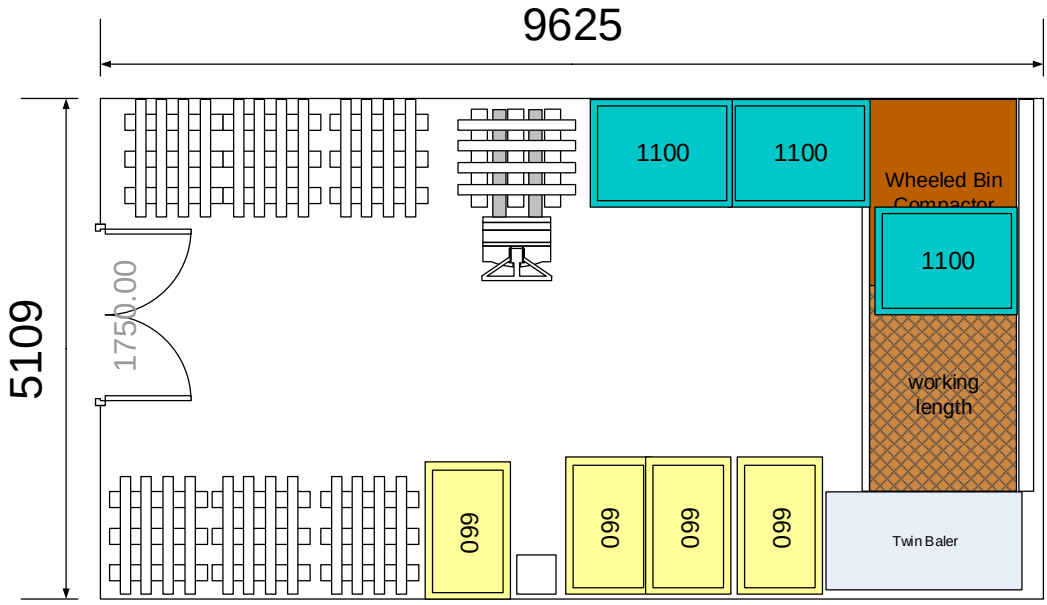

Figure 2 Large Commercial Waste Store

The second waste store, sized at 32.01m^2 (9.95m x 3.22m) will hold

- 10 No. 240 litre bins for food waste
- 5 No. 360 litre wheelie bins for glass and metal cans.

An indicative layout of this waste store is shown in Figure 3.

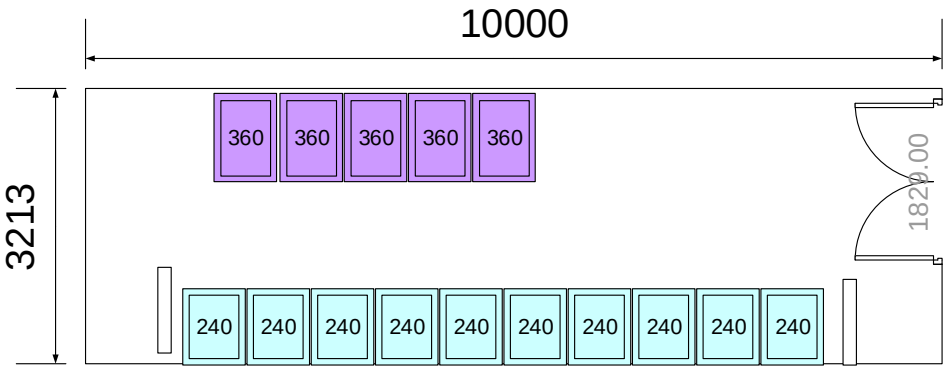

Figure 3 Small Commercial Waste Store

4.3 Waste Management Strategy

4.3.1 Non Recoverable Waste

1,100 litre euro bin compactor will be used to reduce the number of bins required to store refuse or non-recoverable waste. These compactors typically reduce the volume of waste by one third; so 7.82m^3 of refuse waste can be stored in only three 1,100 litre euro bins. Figure 4 illustrates an example of a compactor for 1,100 litre euro bins.

Figure 4 Pakawaste LF1100 Wheelie Bin Compactor

Waste bags collected by the cleaners and/or the FM team from the office floors and taken to the large waste store on the ground floor. Waste bags are placed into 1,100 litre euro bins and compressed by the compactor. Only trained FM staff will be permitted to operate the compactor.

4.3.2 Paper, Cardboard and Plastics

Paper, cardboard and plastics will be baled into 100 kg bales using a twin baler. Bales are stored on pallets (1,000mm x 1,200mm) and each pallet can store two 100 kg bales. Pallets will be moved around the waste room and transported to the service area using hand pallet trucks. Bales on pallets will be collected using an 8m rigid goods vehicle.

4.3.3 Glass, Aluminium and Food

Glass and aluminium will be stored in 360 litre wheelie bins and food waste will be stored in 240 litre wheelie bins.

5 Residential Waste Management

5.1 Residential Accommodation

The development has 48 residential units number of residential units within Templar House are shown in Table 7.

Templar House - Residential Schedule					
Number of bedrooms	Studio	1-bed	2-bed	3-bed	Total
Total	**5**	**18**	**16**	**9**	**48**

Table 7 Residential Accommodation Schedule

LBC have a set formula for calculating the amount of external storage required to be provided based on the number of habitable rooms as shown in Table 8 (*Camden Planning Guidance, Design, Chapter 10, Waste and Recycling Storage*).

LBC – Residential Waste Generation		
Number of Bedrooms	**Habitable Rooms**	**Weekly Waste (m^3)**
Studio	1	0.15
1	2	0.20
2	3	0.25
3	4	0.30
4	5	0.35

Table 8 LBC Residential Waste Generation

5.2 Assumptions

The following assumptions have been applied to calculate residential waste generated within the development:

- A bi-separator chute will be used to transfer waste from residents floors to the waste store at ground level
- On-site facilities management (FM) team to process waste through the day
- Eight day waste storage has been provided based on LBC requirements.

5.3 Waste Generation and Storage

LBC requires residential developments with more than seven dwellings to provide a dedicated store sized to hold eight days waste generation. This is to ensure sufficient storage for a weekly collection of refuse and recyclable waste.

In multi storey residential buildings, provision should be made for storing bulky household items such as furniture and white goods, prior to collection. Bulky waste rooms should be provided at ground level at accessible locations (or can arrange for the on-site team to collect items from their apartments).

Each store should be sized to a minimum of 7.5m^2 and be fitted with double doors (or roller shutter doors) giving a clear opening of 1,830mm and a height of 1,830mm. The store should also have an internal light. These stores will need to be located close to the pickup point for the collection vehicle.

Based on LBC waste guidelines, the 48 market units will generate 11.05m^3 of waste per eight days as presented in Table 9.

Templar House – Residential Waste Generation					
	Habitable Rooms	**LBC Factor**	**Units**	**Waste Volume (m^3)**	**No. 1,100 litre bins**
Studio	1	0.15	5	0.75	0.68
One Bed	2	0.2	18	3.60	3.27
Two Bed	3	0.25	16	4.00	3.64
Three Bed	4	0.3	9	2.70	2.45
Total	**-**	**-**	**48**	**11.05**	**10**

Table 9 Templar House - Residential Waste Generation

Residential waste bins will be split between refuse and dry mixed recyclables as follows:

- 4 No. 1,100 litre euro bins for refuse (W)
- 6 No. 1,280 litre euro bins for dry mixed recyclables (R)

A waste store has been sized to hold 10 No. 1,100 litre bins and 1 No. 240 litre food bin (to future proof food collections) and the bi-separator chute. This is shown in Figure 5.

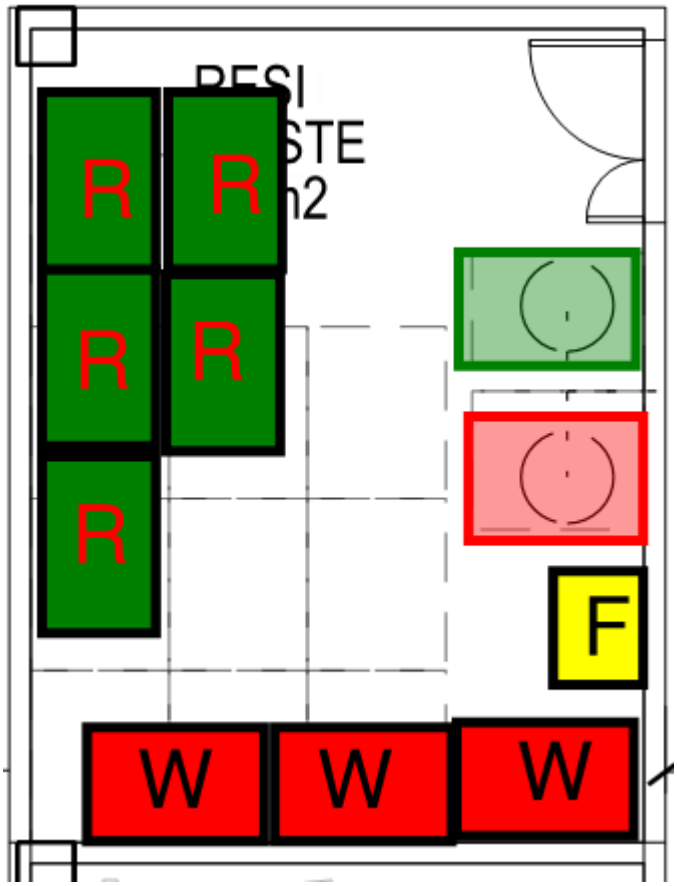

Figure 5 Residential Waste Store with Bi-separator Chute

Food waste will be managed by a collection/return service of the resident's food caddies via the in-house service team, or a provision for off-site food waste storage will be required.

On collection days the FM team will move the bins from the residential waste store and place them in a presentation space within the service corridor close to the site entrance, as shown in Figure 6 below.

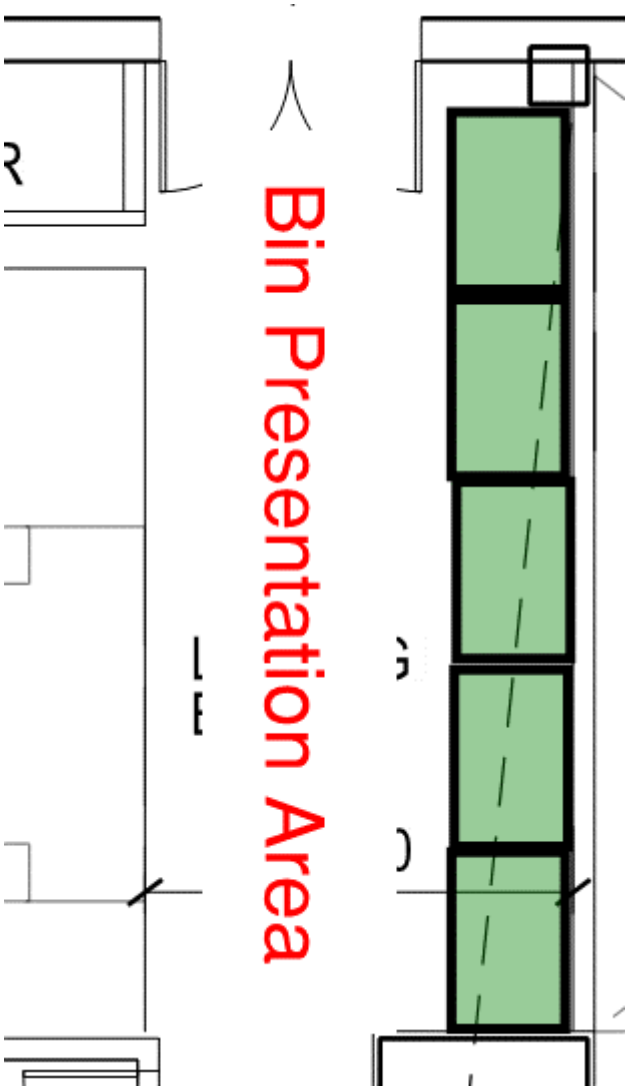

Figure 6 Residential presentation area

5.4 Waste Management Strategy

5.5 Waste Chute

Residents will use the chute on their floor to dispose of bags of refuse and recyclable waste. Waste will collect in 1,100 litre bins located beneath each of separator. Alarms fitted to the chute will inform the FM team when a bin is full and needs replacing. Full bins will be rotated with empty ones stored in the presentation space.

Residents will use communal recycling facilities to dispose of glass waste which cannot be placed in the chute.

It is proposed that residents will dispose of their waste bags by placing them in a chute. This will have a bi-separator at the bottom of the chute to split non-recoverable waste from dry recyclable waste. A bi-separator chute system in illustrated in Figure 7.

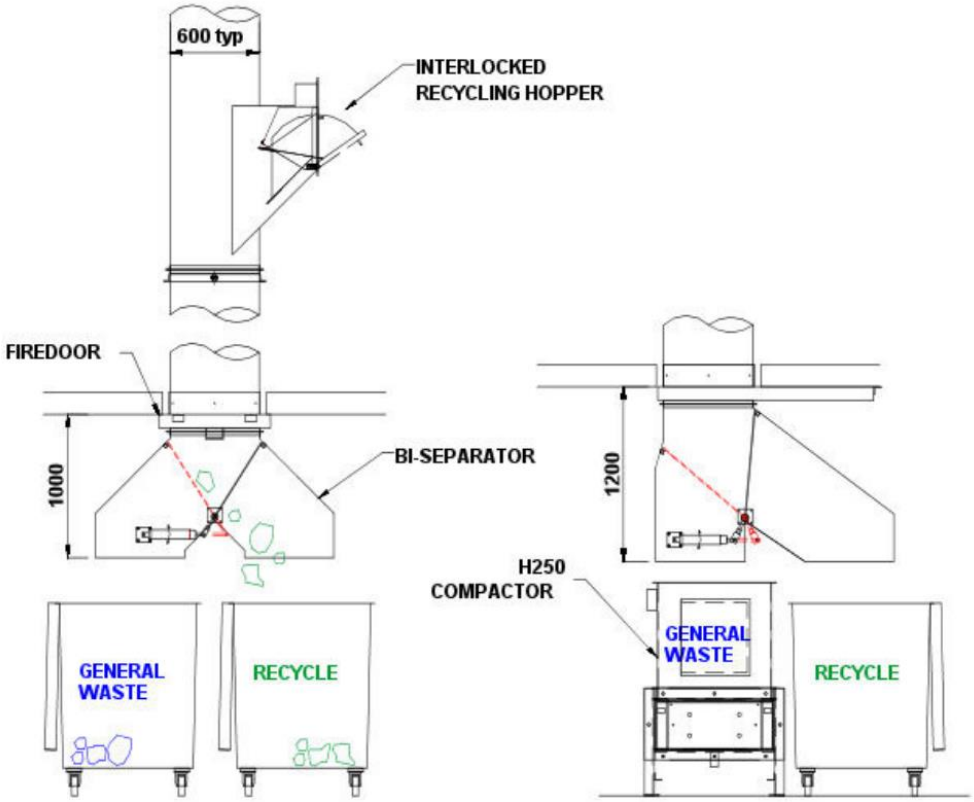

Figure 7 Hardall - Bi-separator Chute System

A bi-separator is operated with an interlock (light display) control unit located at each chute door. By pressing the button on the control unit, the occupant is directing the waste to the appropriate container in the basement. Once a selection has been made, all other chute doors are automatically locked during the time it takes the sorting basket to deposit into the correct bin, thus preventing contamination of the recyclables.

The chute will be designed and installed in line with BS1703: 2005. The chute will be stainless steel with a minimum diameter of 600mm. As required in BS1703 the chute system will be ventilated to air at roof leave (separate from the waste room ventilation). An automatic cleaning system (rotating drum brush) will be installed, this will be operator controlled with the appropriate interlocks.
The chute will have the appropriate fire rating with control doors as necessary to maintain compartmentation. The appropriate security locks will be in place to protect the chute.

5.5.1 Bulky Waste

For unwanted furniture and white goods, a bulky waste store has been provided within the service area. Residents will inform the FM team that an item needs to be removed from their premises. Residents will arrange for collection and disposal of these items and will book a collection slot with the FM team.

6 Waste Collections

6.1 Commercial Waste

On collection days, the FM team will move pallets and bins from the respective waste rooms and take them to the presentation area located behind the loading bay. Refuse and food bins will be emptied into the back of refuse collection vehicles and baled waste on pallets will be loaded into 8m rigid vehicles. Following the collection, the FM team will return empty waste bins to the waste stores.

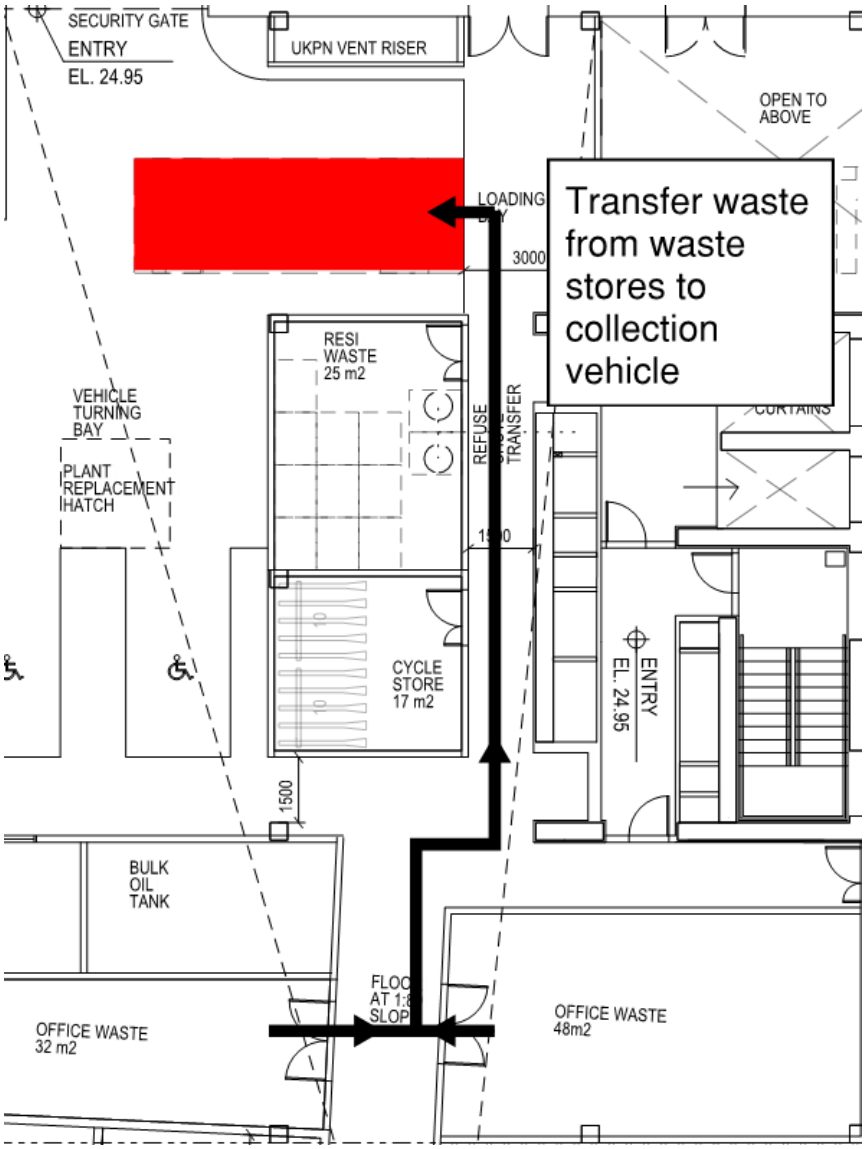

Figure 8 Commercial Waste Collection

6.2 Residential Waste

On collection days, the FM team will ensure the presentation area accessed from Eagle Street has full bins ready to be emptied. Any remaining full bins will be brought from the central waste store and placed in the service corridor. The LBC waste collection team will park opposite the presentation space and retrieve the bins to empty into the refuse collection vehicle. The on-site FM team will assist by removing empty bins from the street and returning them to the waste stores.

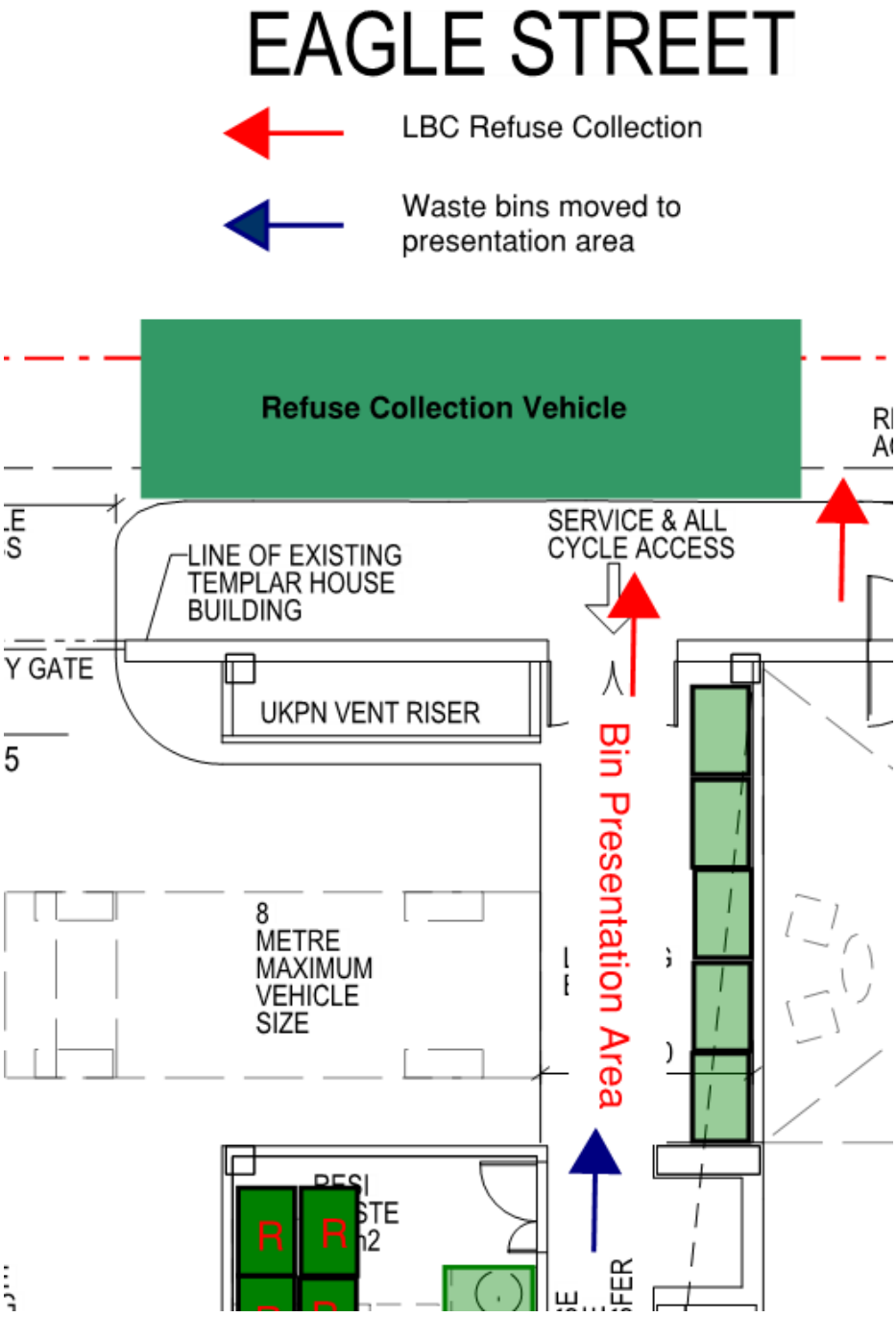

Figure 9 Residential Waste Collection

7 Review and Maintenance

7.1 Surveys, Targets and Monitoring

An initial survey of servicing activity will be undertaken within three months of occupation. Additional surveys will be undertaken annually following the first servicing survey with snapshot surveys as required.

7.2 DSP Review

The site FM team will use information and feedback from managers, suppliers and local residents to conduct an annual review of this DSP. This review will assess the efficiency of the DSP to meet the objectives of minimising the environmental impact on the surrounding area and providing servicing arrangements for the building which meet road management and safety requirements. Information from surveys will be used as part of this assessment of the DSP. The site FM team (on behalf of the land lord) will be responsible for revising this DSP within 12 months of occupation to provide details of these deliveries. Where necessary, changes to the DSP will be made to reflect the findings of the annual review.

Appendix A

Swept Path Tracking

A1 8m Rigid Goods Vehicle