

# Cambridge North Development - Hybrid Application Comprising Offices, Laboratories, and Residential

Brookgate Land Ltd

## Preliminary Operational Waste Management Plan (P-OWMP)

October 2022

Project reference: CND – P-OWM Plan V2  
Project number: 0102

October 2022

## Quality information

Prepared by	Checked by	Verified by	Approved by
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## Revision History

Revision	Revision date	Details	Authorized	Name	Position
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# Introduction

Brookgate Land Ltd (Brookgate) is proposing to develop an area of land off Milton Avenue, North Cambridge, referenced hereafter as the Cambridge North Development, under two separate land uses, one office / laboratory oriented, covering Buildings S4, S5 (a multi-storey car park, the MSCP), S6, S7, S8 and S9, and one residential oriented, covering Buildings S11 to S21 inclusive – see Drawing 239-ACME-S01-0102.

The approach to the application for permission from South Cambridgeshire District Council, the Council, takes the form of a hybrid application, based on the following:

An application for *full permission* for the majority of the non-residential land area, covering buildings S4, S6, and S7; and

An application for *outline permission* for Buildings S8 and S9, as above, together with all of the residential land and buildings.

Building locations and inter-relationships are also as illustrated in Drawing 239-ACME-S01-0100.

A preliminary operational approach to the management of solid waste generated across both development land-use types has been developed, and is presented in this report, of which the full application element is covered in more detail than the outline, which is nevertheless addressed in an in-principle way.

This combined plan is offered as a preliminary document in order to support the hybrid application – in the anticipation that it will be further developed during the application process, and finalised as a pre-commencement deliverable required of the developer, Brookgate.

This Preliminary Operational Waste Management Plan (P-OWMP) has been created in accordance with:

The general requirements of Policies CS16 and CS28 of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy, 2011;

More specifically in accordance with the subsequent supplementary planning guidance document for the management of solid waste (SPD) adopted by Cambridge County Council (CCC), as well as all district councils within greater Cambridge, (the Councils hereafter) comprising both:

Waste Storage and Collection – Guidance for Developers (the GCSWS hereafter), adopted November 2021;

and the RECAP Waste Management Design Guide, which forms part of the Cambridgeshire and Peterborough Minerals and Waste Local Development Framework (LDF), adopted February 2012,

NOTE that both documents are used, as coverage is slightly different, with the GCSWS being considered the ‘superior’ document (being more recent) at times of contradiction; and Policies HQ/1, Design Principles, and SC/4, Meeting Community Needs, of the South Cambridgeshire Local Plan, relating to an appropriately high quality of design and to the meeting of community needs so far as the management of waste during occupation is concerned.

This P-OWMP is intended to provide for the development of the requirements of the SPD, as per the *Responsibilities* flow-chart presented as Figure 10.1 of the SPD document (reproduced as below) together with associated appendices and drawings / plans, across both the full application element, as well as the outline application element of the hybrid application.

Section 2 addresses the full application element, and Section 3 the outline application element.

Within these two sections, sub-sections address the following, with greater detail being provided for the full application element than for the outline application element:

The Design Standards (RECAP) and Developers Minimum Standards (GCSWS) checklists;  
 An assessment of In-building Management proposals;  
 How Collection will be made from across the Development;  
 How Waste will be Managed after Collection; and  
 A review of how the system will be Operated, Maintained and Monitored during its operation.

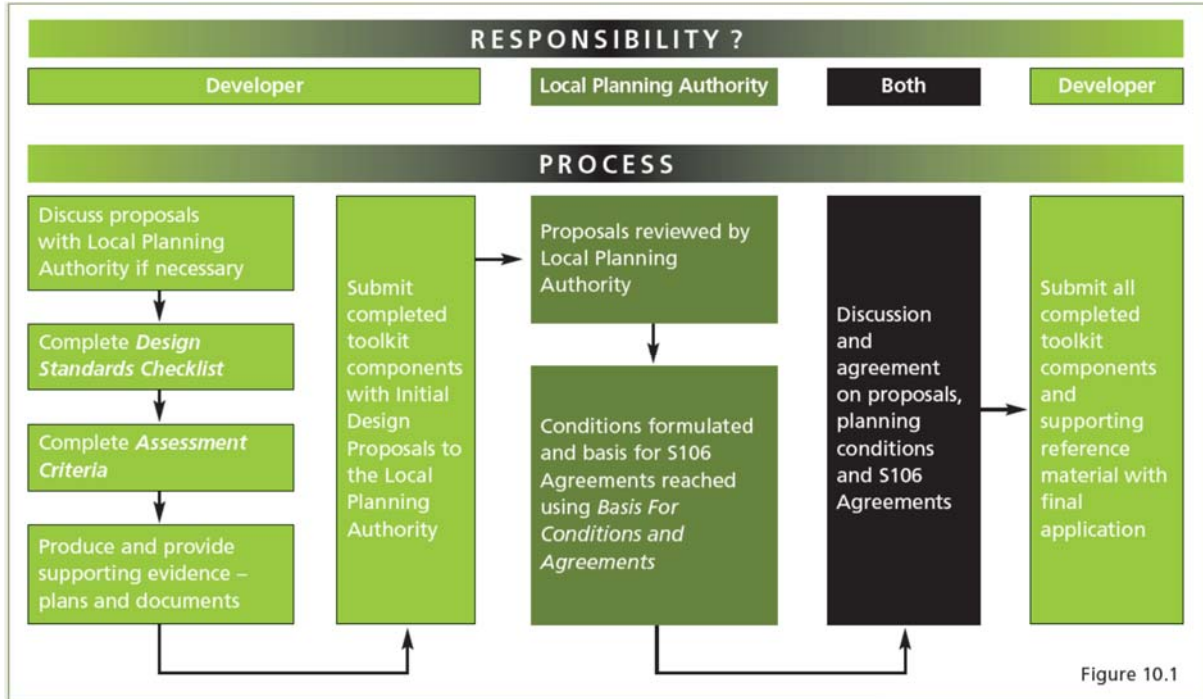


Figure 10.1

Figure 1-1 – Responsibilities flow-chart, as taken from RECAP SPD

Each section of this document is underpinned by appropriate drawings and appendices, which will be presented and explained in the general text - together with tables and/or illustrations, as may be embedded in individual Sections.

It should be noted that this P-OWMP is provided to accompany the application for planning consent in *draft* form only. The final version of this document will be developed as an element of any pre-occupation requirements as may be applied to the development by South Cambridgeshire District Council in issuing any conditional planning permission

# Full Application Assessment

## 2.1 Introduction

The parts of the Cambridge North Development for which full permission is sought will release the useable areas across 3 separate buildings, S4, S6 and S7 (together with a MSCP, as building S5) all of which are to house offices and laboratories, with minor allocations for retail, see Appendix A1 for additional, solid waste specific, and building-by-building land-use areas details) and drawings both presented in this document, Drawings 239-ACME-S01-0102 and 0100, and as generally.

The table at Appendix A1 presents the respective areas, as NIA, for each of the 3 buildings to be developed under the application for full permission within the Cambridge North Development.

Each building will be:

- Separately developed / constructed;
- Provided with its own access / servicing strategy;
- Operated by a dedicated FM (facilities management) team – noting that more than one team maybe employed / provided by the same services company across the development as a whole;
- Provided with separate, dedicated, waste management infrastructure; and
- Assessed in its own right for compliance with the SPD, noting that non-office/laboratory users/occupiers will be responsible for managing their own waste in accordance with the SPD.

## 2.2 Checklists

### 2.2.1 Design Standards Checklist

The table below has been prepared in order to replicate the relevant sections of Table 10.3 of the SPD Design Guide Toolkit as are considered applicable to the North Cambridge Development, and have been completed in order to present the required information to the Councils (i.e. Cambridge County and South Cambridge District Councils) for consideration.

**Table 2-1 – Design Standards Checklist, Commercial Waste**

Key Consideration	Minimum Standards (as per SPD)	Minimum Standards Met ? Y/N	Comment / explanation why SPD Standards are / are not met
Commercial waste storage provisions, as per Part 4.15 of the Design Guide	Offices – 2,600 litres / 1,000m <sup>2</sup> GFA	N	2,000 litres / 1,000m <sup>2</sup> GFA
	Retail – 5,000 litres / 1,000m <sup>2</sup> GFA	N	4,000 litres / 1,000m <sup>2</sup> GFA
	Restaurants / Fast-food – 1,500litres / 20 places	N	3,500 litres / 1,000m <sup>2</sup> GFA
	NOTE – specified in the Design Guide as derived from the City of Westminster requirements for the management of waste and recyclables, with a storage allocation of not less than 1/3 <sup>rd</sup> for dry recyclables		NOTE – revised City of Westminster requirements used, as listed above, to reflect updated underpinning guidance since the Design Guide was issued – this includes provision of proportion of storage required for dry recyclables (70% capacity) and residual & organic wastes

Waste Storage Points, as per Parts 5.10 and 5.14 of the Guide	Facilities Management (FM) service for all elements of all buildings	Y	FM servicing to be provided for each building
	<30m vertical distance for waste movement within a building	Y	Secure management to be provided for confidential documents and clinical waste – via separate management routes, with these elements of waste not touching the 'standard' route, and therefore excluded from calculations
	Separate containers (of required cumulative capacity) for each material stream(s)	Y	
	Container storage / placement locations to meet requirements of Design Guide Appendix D	Y	Separate containers, with in-container compaction, provided for each material type, reflecting the City of Westminster requirement for 70% of each origin for dry recyclables
	Between 10m (preferred) and 25m (maximum) container movement distance from store / holding location to service vehicle	Y	Container / waste store to meet requirements as per Appendix D
	Container movement routes not less than 1.5m wide, and gradients not greater than 1(v) : 12(h)	Y	Distances and service routes within / to and from buildings are as per Drawing 239-ACME-S01-0100 derived from the 'Checklist for Developers' issued by the Council
			Vehicle service routes are as per Drawing 05425-C-2208

## 2.2.1 Minimum Standards Checklist

A draft Minimum Standards Checklist is provided at Appendix D, binding the development of the non-residential elements of the development to the requirements of the GCSWS, specifically Sections 4.5 and 13.2, in addition to the general requirements of BS 5906:2005, as per Appendix C

## 2.3 In-building Materials Management

### 2.3.1 General

Confidential documents, principally paper and / or card, will be deposited in dedicated 3rd-party provided containers, with the containers being serviced on an as-needed basis, thereby running around the standard servicing approach / frequency – a nominal amount of such waste has been removed from the standard waste management calculations, equating to half (50%) of the paper, or approximately one quarter (25%) of the total arisings by volume, based on a typical waste composition for office waste, as below.

**Figure 2-1 – Typical office-waste make-up, by material type**





Potentially hazardous clinical waste will be managed, via a dedicated service provider, on a laboratory-by-laboratory basis, with containers (euro-bins, 'sharps' containers, or as otherwise required / used), filled and held in a laboratory setting and sealed to prevent subsequent opening.

Excluding the above specialist wastes, the servicing of each building will be undertaken by the appropriate FM team, with:

Material(s) being segregated at source, reflecting three (3) streams, comprising:  
dry recyclables (namely paper / card, dense plastic, metal and glass, collected and moved as a mixed material stream) from both the laboratories and offices;  
organic / food waste; and  
residual wastes;  
Separate in-building / in-office containers will be provided for each material, where appropriate grouped for ease of access by users or specifically separated for means of material stream management, e.g. potentially hazardous clinical waste;  
Interim amalgamation as part of the building servicing / cleaning provision;  
Transfer within the building to a dedicated waste / refuse store, with appropriate transfer from the cleaning equipment to dedicated containers;  
Appropriate in-container compaction; and  
Removal of containers for emptying by a 3<sup>rd</sup>-party service provider(s), with a dedicated service provided for the potentially hazardous clinical waste material stream.

Wastes generated by other building occupiers will be managed by each occupant, using dedicated servicing provisions not covered in detail in this document, as they will form part of site-by-site negotiations yet to be undertaken, Nevertheless, provisions will be made in general accord of the SPD which forms the basis of this D-OWMP, reflecting the predicted amounts to be managed, as per Appendix A1 and A2 (as a provisional assessment only at this time).

## 2.3.2 In-Building Capacity Provisions

### Typical Waste Streams

Waste predictions for each building are as presented in Appendix A1, noting that the detail to follow does not include the management of waste generated by other than the occupation and use of offices and laboratories, as reference immediately above.

These show the:

Predicted amount of waste generated by each activity, by building;  
How many of which containers (wheelie or Euro bins) are required, by building; and  
How and when servicing is undertaken, assuming:  
Twice-weekly service visits for potentially hazardous clinical waste;  
Twice-weekly service visits for all other non-confidential waste streams; and  
Service visits on an as-needed basis for confidential wastes.

Each building is provided with a dedicated waste room / refuse store, to be developed in accordance with BS 5906:2005 / the relevant sections of the GCSWS, together with other relevant British Standards, as appropriate and as per the summary table provided at Appendix C and commitments given in Appendix D, and is sufficiently large to adequately contain the required number of containers, noting that:

The management of the two (2) specialist waste streams will not entail use of this facility; and  
In-container compaction is to be used to optimise container contents and minimise container numbers.

Drawing 239-ACME-S01-0100 shows where the waste rooms / refuse stores are located – at ground-floor level in each building.

Unless otherwise referred to the following bin sizes / capacities will be utilised:

For potentially hazardous clinical waste – 1,00 litre Eurobins (lockable) and / or sharps containers (lockable) – suitable for in-container compaction;

For dry mixed recyclables – 1,100 or 1,280 litre Eurobins – suitable for in-container compaction;

For residual waste – as above; and

For organic / food waste – 240 litres.

## **Bulky / larger Items**

Storage capacity / provision for bulky and unwanted items, including WEEE, will be made on a building-by-building basis within the waste room / refuse store, with on-demand servicing being used to minimise any material build-up.

## **2.4 Collection from the Development**

As previously briefly referred to, servicing of the waste streams described above will be provided on the basis of:

Twice-weekly by specialist service contractor for potentially hazardous clinical wastes – locked yellow containers and / or sharps containers;

Twice-weekly collection by 3<sup>rd</sup>-party service provider for mixed dry recyclables, organic / food wastes and residual wastes;

On-demand for confidential wastes; and

On-demand for large or bulky items, WEEE, etc.

Reflecting the choice to make the central area of the development vehicle-free, dedicated service routes are as shown in Drawing 05425-C-2208.

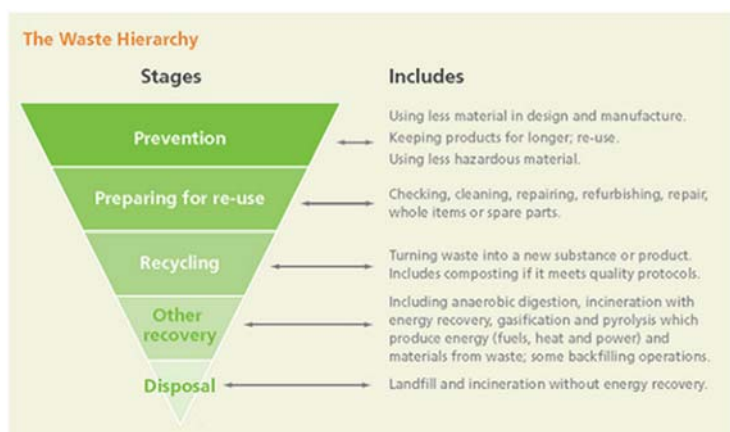
Pull-distances for full containers have been selected to meet the required maximum distance of 10m wherever possible for 4-wheeled bins - and where not practicable, the FM team will assist service providers using dedicated battery-powered mini-tugs, as per the example presented in Appendix B3, e.g. <https://www.mastermover.com/bin-mover/>

## **2.5 Management of Waste once removed from the Development**

In the absence of dedicated contracts for any of the waste streams previously considered in the P-OWMP, the development FM team(s) will ensure compliance with UK best-practice and statute regarding on-site segregation and off-site diversion from landfill, as may apply to commercial wastes, from time to time.

Overall, the management of solid waste from the Cambridge North Development will take into account the waste hierarchy, as below, and look to maximise diversion away from landfill (as final disposal) and maximise recovery, either of material(s) and / or energy, as per Figure 2-2 below.

**Figure 2-2 – Waste Hierarchy Graphic**



It is envisaged that:

Potentially hazardous clinical waste will be thermally treated by means of disposal, either via autoclaving and / or incineration (with the 'with energy recovery' option preferred); Mixed dry recyclables will be taken to an appropriately approved and operated MRF, for separation into individual material streams, for re-introduction into relevant manufacturing sectors; Mixed organic / food waste will be taken for further processing, via either AD (anaerobic digestion) or in-vessel composting – with appropriate recovery of either material(s) and / or energy; and Residual waste will most probably be subjected to incineration with energy recovery, possibly via some form of SRF/RDF production (secondary recovered fuel/ refuse derived fuel) as a pre-cursor to incineration.

Once operational, information to support the above will be obtained and retained by building FM team(s).

## 2.6 Operation, Monitoring and Maintenance

The operation and maintenance of the proposed system for solid waste management system for the development will be undertaken by the site FM team, employed by the development manager / owner as a dedicated function.

All waste-related infrastructure and equipment will be maintained in accordance with supplier / manufacturer requirements and recommendations, and a program of preventative maintenance and cleaning will be applied to the following items by the FM team;

Bins / containers, using a visiting / mobile cleaning system;  
Individual building waste rooms / refuse stores;  
Bulky waste provisions, as above; and  
All connecting corridors, etc.

Monitoring of the effectiveness of the system and its implementation / use will include the use of a system to be developed by the FM team as part of building commissioning, and will cover, to include the specialist waste streams referred to in Section 3.1:

Recorded incidences of operational / system use non-compliances / breaches by building occupants / users;  
User-complaints, if determined by site FM team to be a valid complaint; and  
Physical and/or control-system failures / outages, other than as may be planned as part of the maintenance schedule.

# Outline Application Assessment

## 3.1 Introduction

The parts of the Cambridge North Development for which outline permission is sought will release the following useable areas across, drawings both presented in this document, see 'Drawings' section, and as submitted generally in support of the application:

2 separate buildings, S7 and S8 both of which are to house offices and laboratories, with minor allocations for retail, see Appendix A2 for *provisional*, solid waste specific, and building-by-building land-use areas details; and

11 separate residential blocks, with minor allocations for retail and leisure, see Appendix A3 for *provisional* solid waste specific and building-by-building land-use areas.

Note that the tables presented at Appendix A2 and A3 respectively present the provisional areas, as NIA, for each of the buildings to be developed under the application for outline permission at the Cambridge North Development, and may be amended during the application process.

For the office / laboratory buildings, each building will be:

Separately developed / constructed;

Provided with its own access / servicing strategy;

Operated by a dedicated FM (facilities management) team – noting that more than one team maybe employed / provided by the same services company across the development as a whole;

Provided with separate, dedicated, waste management infrastructure; and

Assessed in its own right for compliance with the SPD, noting that non-office/laboratory users/occupiers will be responsible for managing their own waste in accordance with the SPD.

For the residential buildings, while each building will be developed separately and provided with its own waste / refuse storage room, a draft servicing strategy is under finalisation, but will be established in order to meet the reasonable requirements of the Council, using either Council-delivered services, or those provided by 3<sup>rd</sup>-party providers – see Section 3.4.

## 3.2 Design Standards Checklist

For the non-residential part of the outline application element of the application, details are as provided in Section 2.2, and Appendix D.

For the residential part:

the table below has been prepared in order to replicate the relevant sections of the GCSWS as are considered applicable to the residential quarter of the Cambridge North Development, and have been completed in order to present the required information to the Councils for consideration; and Appendix D comprises a completed, draft, GCSWS Minimum Standards Checklist, offered for discussion with the Council.

**Table 3-1 – Design Standards Checklist, Residential Waste**

Key Consideration	Minimum Standards (as per GCSWS)	Minimum Standards Met ? Y/N	Comment / explanation why GCSWS Standards are / are not met
In-residence Waste Storage Requirements as per Section 4 and Appendix B	Internal capacity – 50 litres required	Y	Segregation into dry mixed recyclables, residual waste and organic waste to be provided for  Combined generation rates provisionally developed on a per-building basis  Combined storage provided on a building-by-building basis
	Per-property generation rates provided for as per Appendix B	Y	
	Storage provisions provided for as per waste segregation requirements, on the basis of separate bins for each material type, allowing bulk-storage prior to servicing	Y	
Waste Storage Points, as per Section 4, with vehicular requirements, as per Section 9	Facilities Management (FM) service for all elements of all buildings	Y	Servicing approach yet to be finalised, but development design / building layout such that FM not prevented, nor direct servicing, see Section 3.4
	<30m vertical distance for waste movement within a building	Y	
	Separate containers (of required cumulative capacity) for each material stream(s)	Y	Separate containers, provided for each material type, reflecting required segregation approach, see Appendix A  Distances and service routes within / to and from buildings are as per Drawing 239-ACME-S01-0100 derived from the 'Checklist for Developers' issued by the Council
	Container storage / placement locations	Y	
	Between 10m (preferred) and 25m (maximum) container movement distance from store / holding location to service vehicle	Y	
Container movement routes not less than 1.5m wide, and gradients not greater than 1(v) : 12(h)	Y	Vehicle service routes are as per Drawing 05425-C-2208	

## 3.3 In-building Materials Management

### 3.3.1 In-Building Capacity Provisions – Office / Laboratory Development

Proposals for the management of materials generated from the non-residential element of the outline application are as provided for in Section 2.3, as previously reviewed.

Proposals for the management of materials generated from the residential element of the outline application are as presented to follow in Section 3.3.2.

Excluding the above specialist wastes, the servicing of each building will be undertaken by the appropriate FM team, with:

Material(s) being segregated at source, reflecting three (3) streams, comprising:  
dry recyclables (namely paper / card, dense plastic, metal and glass, collected and moved as a mixed material stream) from both the laboratories and offices;  
organic / food waste; and  
residual wastes;

Separate in-building / in-office containers will be provided for each material, where appropriate grouped for ease of access by users or specifically separated for means of material stream management, e.g. potentially hazardous clinical waste;  
Interim amalgamation as part of the building servicing / cleaning provision;

Transfer within the building to a dedicated waste / refuse store, with appropriate transfer from the cleaning equipment to dedicated containers;  
Appropriate in-container compaction; and  
Removal of containers for emptying by a 3<sup>rd</sup>-party service provider(s), with a dedicated service provided for the potentially hazardous clinical waste material stream.

### 3.3.2 In-Building Capacity Provisions – Residential Development

#### Typical Waste Streams

*Provisional* waste predictions for each building are as presented in Appendix A3.

These show the:

Predicted amount of waste generated by each activity, by building;  
How many of which containers (wheelie or Euro bins) are required, by building (bin selection as per GCSWS Appendix A; and  
How and when servicing is undertaken, assuming alternate weekly collections, as per GCSWS Section 4.2, subject to the confirmation of the servicing strategy.

Each building will be provided with a dedicated waste room / refuse store, to be developed in accordance with BS 5906:2005 and the requirements committed to at Appendix D, together with other relevant British Standards, as appropriate, as per the summary table provided at Appendix C and Appendix D, and will be of sufficient size to adequately accommodate the required number of containers, as *provisionally* predicted.

Unless otherwise referred to the following bin sizes / capacities will be utilised:

For dry mixed recyclables – 1,100 litre Eurobins;

For residual waste – as above; and

For organic / food waste – 140 litres.

#### Conventional vs non-Conventional Storage and Collection

The Council's preference presented in the GCSWS for the provision of some form of non-conventional approach to the management of solid waste in association with higher-density developments is noted.

Whilst an over-arching, development-wide approach has been both considered and reviewed for this development, a positive decision-making approach has resulted in a move not to move to this preferred approach, but to remain with a conventional system / approach, as presented to follow.

While the whole development maybe classed as (relatively) high density, in reality it is not, as what is proposed is both spread across a substantial area of land and is split between different land-uses – these combined elements effectively serve to reduce the intensity of individual development – thus in effect losing the benefits of scale which may otherwise apply to a genuinely elevated intensity of development.

Additionally, it is important to enable the management of solid waste to be considered on an individual land-use basis, in order to avoid risk of fettering any one element against another / the remaining elements, see Section 3.4 to follow.

For these reasons, it has been determined that the commercial element will be allowed to manage its own waste in accordance with its preferences, most likely to involve servicing by a 3<sup>rd</sup>-party commercial organisation as opposed to the Council, while the residential element is likely to be split



into two separate servicing approaches, namely a 3rd-party approach for the 'build-to-rent' element (where ownership will be retained by an organisation as opposed to the occupier) and a Council-based approach for the 'private-for-sale' or affordable elements.

The conscious segregation of these elements, for sound operational and commercial reasons, effectively removes any possible benefits-of-scale approach which would otherwise be required in order to justify a single-source type of approach as would be required for, say, the installation of an underground system. It is also noted that GCSWS recognises this as a possible constraint / prevention to the use of such an all-encompassing system.

### Bulky / larger Items

Storage capacity / provision for bulky and unwanted items, including WEEE, will be made on a building-by-building basis within the waste room / refuse store, with on-demand servicing being used to minimise any material build-up, irrespective of the service provision route applicable for the location(s) concerned.

## 3.4 Collection from the Development

As previously briefly referred to, the *provisional* approach to the servicing of the waste streams described above will be provided on the basis of:

For the non-residential elements, collection is envisaged as per Section 2.4 above;

Alternate-weekly collection by the Council **or** 3<sup>rd</sup>-party service provider (as appropriate – see comments to follow) as per the requirements of GCSWS Section 4.2; and

On-demand for large or bulky items, WEEE, etc., in association with respective service provider(s), as required, and as per the two bullet points above.

Collection across the residential element of the development is likely to be split between:

The build-to-rent section, where a 3<sup>rd</sup>-party, private, service provider is most likely to be used, amounting to some 270 properties, and some ; and

The private-for-sale / affordable section, where the selected service provider is most likely to comprise the Council, amounting to some 155 properties.

The relative location of the built-to-rent and private-for-sale properties are as in the figure below.

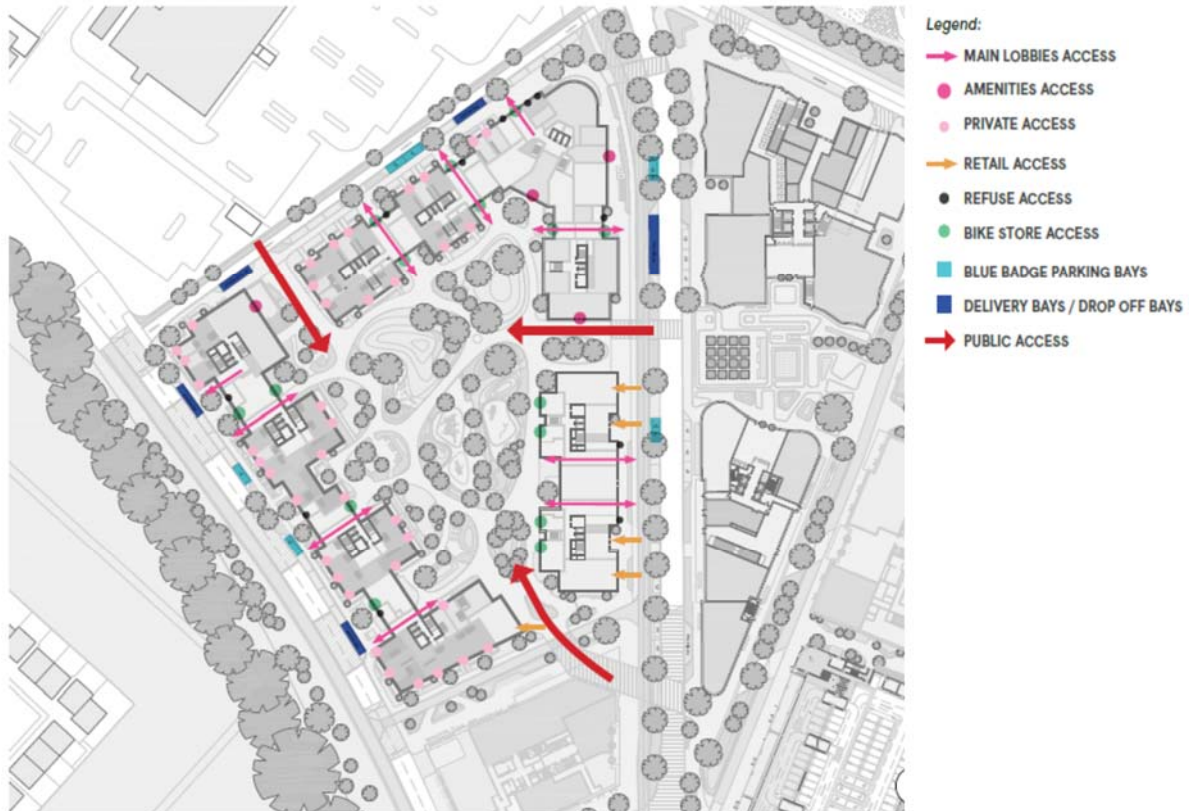
**Figure 3-1 – Provisional property allocations by occupation type**



Pull-distances for full containers have been selected to meet the required maximum distance of 10m wherever possible, across both development types, i.e. non-residential and residential. Where this is not practicable, the respective site FM team (i.e. residential or non-residential) will work with the Council's / the 3<sup>rd</sup>-party service team(s), as per a commitment given in Appendix D.

The current anticipate layout and access provisions for the residential element of the development are as illustrated in the figure to follow.

**Figure 3-2 – Bin store (and other) access arrangements – residential element**



### 3.5 Management of Waste once removed from the Development

In the absence of dedicated contracts for any of the waste streams previously considered in the P-OWMP, the yet-to-be-confirmed servicing strategy will ensure compliance with UK best-practice and statute regarding on-site segregation and off-site diversion from landfill, as may apply to residential wastes, from time to time, noting that if the Council is appointed as service provider, its contracts are assumed by default to meet this.

Further detail has already been provided in Section 2.5.

### 3.6 Operation, Monitoring and Maintenance

In the absence of a defined servicing strategy, the development of an operation and maintenance strategy has yet to be undertaken. Nevertheless, it is likely to reflect that previously presented in Section 2.6, subject to minor amendments to reflect the eventual service provider.



# Summary and Conclusions

This Preliminary Operational Waste Management Plan, P-OWMP, for the North Cambridge Development proposed by Brookgate, developed as it has been to reflect the requirements of both the GCSWS and the RECAP Waste Management Design Guide, the SPD, demonstrates compliance with the general objectives of Policies CS16 and CS28 of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy, as enshrined in the Cambridgeshire and Peterborough Minerals and Waste Local Development Framework (LDF), as well as policies HQ/1 and SC/4 of the South Cambridgeshire Local Plan.

Compliance is demonstrated in some detail for that element of the application for full permission, principally for offices and laboratories (with minor allocations for retail / leisure), and in an outline, *provisional*, approach for those elements of the application where outline permission is sought.

Additionally, it demonstrates best-practice compliance with BS5906:2005 and the requirements of Sections 4.5 and 13.2 of the GCSWS, in that, even though the subject of the assessment comprises either a commercial development and / or a residential one, in that it:

Minimises the number of vehicle movements necessary in order to implement the management of waste generated as a result of the occupation of the buildings concerned (see Section 1 for the allocation between the full permission and the outline permission) – through the use of a dedicated site FM team, coupled with on-site segregation and compaction, which together help optimise the efficiency of the system proposed;

Actively encourages the at-source segregation of waste / potentially recyclable materials, using a 3-stream approach more akin to that required for non-commercial developments, in excess of the minimum requirement of two material streams;

Provides for a minimum of 3/4 days storage, in excess of the minimum requirement of 2 days;

Enables an alternative weekly service frequency for residential waste; and

Makes an appropriate contribution to the street-scene around the development, in that the system proposed minimises (or avoids) most needs for reversing moments, and avoids the need to temporarily hold containers on the public highway at all times.

The approach selected, while it does not reflect the Council's preferred approach for (relatively) high-density developments, as this is considered incompatible with the loss of benefit-of-scale, given that there will be a three-fold approach to servicing, is nevertheless believed to meet GCSWS requirements, via:

3<sup>rd</sup>-party private service provider – all non-residential elements;

3<sup>rd</sup>-party private service provider – the build-to-rent residential element; and

Council as service provider – the private-for-sale / affordable elements of the residential section.

The simplified checklists presented at Sections 2.2 and 3.2 above, and the draft Developers Minimum Standards Checklist presented at Appendix D, all show compliance with the Council's requirements and/or best practice, as required via RECAP and GCSWS.

# Drawings

Site location plan - not provided for reasons of duplication, as this sits within the application pack

Site layout plan – with building numbers – Drawing 239-ACME-S01-0102

Site layout plan – with land-uses – Drawing 239-ACME-S01-0100

Refuse vehicle tracking – Drawing 05425-C-2208

NOTE drawings are provided as a separate Zip file, so as not to otherwise constrain their size or clarity when combined with the text of this report.

# Waste Predictions Table

## Spreadsheet Extract – Full Permission Non-Residential element

Building Number	Building Name	Uses	NIA / use:m2	NIA / total m2	agreed generation rate/m2	generation rate: litres/week	Material - weekly generation rate, litres	Containers w/out compaction - container capacity litres & container numbers		Compaction rate (compacted : uncompacted ratio)	Containers with compaction - container capacity in litres & container numbers		Twice weekly servicing - containers capacity in litres & containers numbers		Twice weekly servicing - containers capacity in litres & containers numbers		Confidential office paper - volume in litres / container equivalent	Clinical waste allocation - assumed potentially hazardous as proportion of laboratory arisings			
								residual	recyclates		residual	recyclates	residual	recyclates	residual	recyclates			residual	recyclates	residual
NOTE - office: laboratory allocation 6 70/30, respectively								actual recovery rate		target proportion recovery rate		65% 15% 20%		65% 15% 20%							
NOTE - office: laboratory allocation 6 70/30, respectively								actual recovery rate		target proportion recovery rate		65% 15% 20%		65% 15% 20%							
4	1 Milton Avenue	total office laboratory other	10732		2	21716	1952 320 423	21716	11 3 18 32	2.5	1 1280 1100 240	2 2 2	2 2 2	1280 1100 240	2 2 2	15	2	15%	1,100 litre containers		
							21716	21716	35		25	15	23	23	15	23	2				
							21716	21464	11 3 18 32	2.5	1 18 25 3	2 2 2	2 2 2	18 23 2	1 9 12 1744	2 2					
							0	0	0 0 0 0	2.5	1 0 0 0	2 2 2	2 2 2	0 0 0 0	0 0 0 0	0 0 0 0					
							164	38 50 252	1 1 1 3	2.5	1 0 0 1	2 2 2	2 2 2	0 0 0 1	1 1 1 3	0 0 0 0			0 1		
5	MCP						0	0 0 0 0	12 4 19 35	2.5	1 18 25 4	2 2 2	2 2 2	18 23 3	2 10 15 1744	2 2					
							0	0 0 0 0	0 0 0 0	2.5	1 0 0 0	2 2 2	2 2 2	0 0 0 0	0 0 0 0	0 0 0 0					
							18016	18016	27	2.5	1 10 13 1	2 2 2	2 2 2	10 12 1	0 5 6 935	1 1					
6	1 Swale Street	total office laboratory other	8219		2	18016	7479 1726 2301	11507	6 2 10 17	2.5	1 0 4 6	2 2 2	2 2 2	0 0 0 0	0 0 0 0	0 0 0 0			740 1		
							18016	11507	17		13	7	12	12	6	12	1				
							18016	4951	3 1 4 7	2.5	1 0 0 0	2 2 2	2 2 2	0 0 0 0	0 0 0 0	0 0 0 0					
							1026	237 316	1 1 1 3	2.5	1 0 0 0	2 2 2	2 2 2	0 0 0 0	0 0 0 0	0 0 0 0					
							9	3 15 27	9 3 15 27	2.5	1 14 19 2	2 2 2	2 2 2	14 18 3	1 8 12 935	1 1					
							18685	18685	28		20	13	22	22	12	12	1				
7	3 Swale Street	total office laboratory other	6339		2	18685	7851 1812 2416	12078	6 2 10 18	2.5	1 10 14 2	2 2 2	2 2 2	10 13 1	0 5 7 981	1 1					
							18685	12078	18		14	7	13	13	7	12	1				
							18685	5176	3 1 4 8	2.5	1 0 4 6	2 2 2	2 2 2	0 0 0 0	0 0 0 0	0 0 0 0			776 1		
							930	215 286	1 1 1 3	2.5	1 0 0 0	2 2 2	2 2 2	0 0 0 0	0 0 0 0	0 0 0 0					
							10	3 15 28	10 3 15 28	2.5	1 14 20 3	2 2 2	2 2 2	14 22 3	1 8 12 981	1 1					
							58417	58417	91		63	37	47	47	39	39	3				
							58417	11683	58417	31 11 49 91	14 3 46 63 9 4	25 37 12 4	47 62 8 5 26 39 3660 3 3	62 39	3664 0	0		Managed via a separate, dedicated, route			
							58417	58417	91		63	37	47	47	39	39	3				



## Provisional Spreadsheet Extract – Outline Permission Residential element

Building	Accommodation Type Required volumes, as per GCSWS planning guidance, 2021	1 bed			2 bed			3 bed			No of Properties	total external waste storage capacity (litres)				allocated material streams (%)				container sizes (litres) & number of containers required			
		Studio	1 bed	2 bed	3 bed	Studio	1 bed	2 bed	3 bed	totals		recyclables	organic	residual	recyclables	organic	residual	total	recyclables	organic	residual	total	
S11			14	26						40	3,360	8,840		12,200	5,612	976	5,612	5	7	5	17		
S12			18	20						38	4,320	6,800		11,120	5,115	890	5,115	5	6	5	16		
S13		5	28	26	2					61	6,720	8,840	880	17,390	7,999	1,391	7,999	7	10	7	24		
S14			5	17	7					29	1,200	5,780	3,080	10,060	4,628	805	4,628	4	6	4	14		
S15			9	18	5					32	2,160	6,120	2,200	10,480	4,821	838	4,821	4	6	4	15		
S16			15	18	0					33	3,600	6,120	0	9,720	4,471	778	4,471	4	6	4	14		
S17			15	14	4					33	3,600	4,760	1,760	10,120	4,655	810	4,655	4	6	4	14		
S18			20	9	5					34	4,800	3,060	2,200	10,060	4,628	805	4,628	4	6	4	14		
S19		7	21	20						48	5,040	6,800		13,170	6,058	1,054	6,058	6	8	6	19		
S20			14	26						40	3,360	8,840		12,200	5,612	976	5,612	5	7	5	17		
S21			18	19						37	4,320	6,460		10,780	4,959	862	4,959	5	6	5	15		
11			12	177	213	23				425	2,280	42,480	72,420	127,300	58,558	10,184	58,558	53	73	53	179		
														127,300			127,300						
NOTE	Studio apartments not addressed in GCSWS guidance, therefore allocated at 80% 1 bed apartment																						
NOTE	Non-residential land-uses across Buildings S13-16 and S17-21 will be assessed at full application.																						

# Equipment Examples

## Containers / Bins

Taken from GCSWS Appendix B

Container type	Image	Dimensions
140 Litre bin (used for commercial food waste, or food waste at flats)		H = 106.7 cm W = 48.3 cm D = 55.9 cm
240 Litre bin (standard bins for houses)		H = 106.7 cm W = 58 cm D = 74 cm
360 Litre bin (Suitable for less than two apartments)		H = 111.8 cm W = 58.4 cm D = 86.4 cm

660 Litre bin (suitable where 1100 litre bins wont fit, or for residents unable to use larger bins)		H = 121.9 cm W = 137.2 cm D = 78 cm
1100 Litre bin (standard bins for flats )		H = 135.4 cm W = 121 cm D = 107.3 cm

# In-container Compaction

In-container compactor - <https://www.qcr.co.uk/balers-compactors/qcr-1100-bin-press/a/16/> , <https://www.tonyteam.co.uk/products/bin-compactors/tt1100e-bin-compactor/>, <https://waste-handling-solutions.com/product/1100l-bin-compactor/> or the like, subject to final selection / purchase



## PEL360 BIN COMPACTOR

Category: Bin Compactor

### FEATURES AND BENEFITS OF THE PEL360 BIN COMPACTOR

It is estimated that up to 60% of space in a refuse bin containing loose waste is trapped air. Most waste collection companies charge per bin collection so reducing the number of collections will result in a direct cost saving. The PEL360 bin compactor allows you to compact the waste in the bin, make more efficient use of the space available in that bin and reduce the collection costs.

### CUSTOMER BENEFITS OF THE PEL360 BIN COMPACTOR

The PEL360 bin compactor will compact up to three bins into one bin and offers waste volume and disposal costs savings of up to 60%. The bin compactor creates space by reducing number of bins required to store waste thus allowing smaller, cleaner, safer and ultimately more sanitary environment for both employees and customers.

### PRODUCT FEATURES

- PEL360 offers bin compaction ratio of 3:1
- Dimensions of PEL360 are 660mm (H) x 652mm (D) x 1140mm (L)
- PEL360 requires a 220V/50Hz power supply
- Two handed operation with emergency stop
- Operating noise level is approximately 70dB
- Simple maintenance programme

The PEL360 Bin Compactor is manufactured to ISO9001 & is CE Certified.

Benefits of the PEL360 Bin Compactor include:

#### REDUCE LABOUR AND DISPOSAL COSTS

Compacting your 360 litre bins reduces the number of bins required, frequency of collections required and the overall waste disposal costs for your business.

#### SAVES SPACE

The PEL360 will compact up to three bins into one bin and dramatically reduces space required for storage of waste prior to collection.

#### 'PLUG & PLAY' INSTALLATION

The PEL360 requires a 220V/50Hz mains electricity supply, is connected via a standard 3 pin socket

#### ELIMINATE WASTE SPILLS & OVERFLOWING BIN ISSUES

Correct use of the PEL360 bin compactor eliminates overflowing bins and associated potential Health & Safety issues.

#### PRIMED WITH HARDWEARING POWDER TOPOCOAT

Highly durable product which offers customer option of coating the PEL360 either inside or outside

#### HELPS ENVIRONMENT

Reduced waste collection pick-ups = reduced traffic contributes to lower carbon footprint for the customer



Home > General Waste Compaction > QCR 1100 Bin Compactor

## QCR 1100 Bin Compactor

Reduce your bin lifts by up to 75% and therefore reduce your waste disposal costs. Ideal if you have more than 3 wheeled bin lifts per week. Perfect for both mixed recycling and general waste.

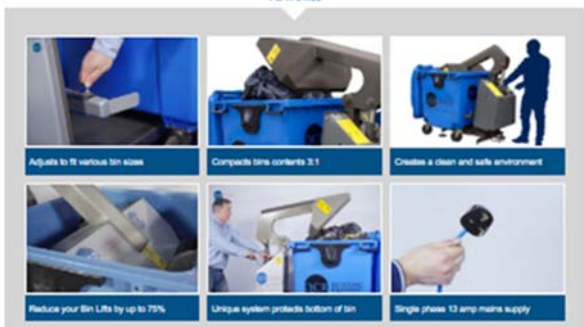
- ✓ Reduce 1100 wheeled bin lifts 3:1
- ✓ Hygienic & clean, more environmentally friendly working environment
- ✓ Improve health & safety standards
- ✓ Adaptable to various bin sizes
- ✓ Operator enclosed version available
- ✓ Suitable for compacting cardboard, plastic, wet and dry waste
- ✓ Recommended bin materials: steel food trolleys, bins, metal skips, tubs, supermarket trolleys

[Make An Enquiry](#) [Watch Product Video](#)

### Technical Details

Compaction Ratio	3:1
Compaction	Up to 4 tonnes
Cycle Time	45 seconds
Throughput/shift	4 tonnes
Operation	Pushbutton
Power	13 amp single phase
Dimensions	H: 2140mm (approx), W: 650mm (approx), D: 1000mm
Weight	200kg
Product Code	QCR 1100 Bin-Press

### FEATURES



## Bin Tug

[https://www.epowertrucks.co.uk/product-category/pedestrian-controlled-electric-tugs/?gclid=Cj0KCQiAjJOQBhCkARIsAEKMtO2y9P09rjFtuRDJwaXfpQgkEH9YC284UVjr7au5GEOZxikjy5kJInMaApfJEALw\\_wcB](https://www.epowertrucks.co.uk/product-category/pedestrian-controlled-electric-tugs/?gclid=Cj0KCQiAjJOQBhCkARIsAEKMtO2y9P09rjFtuRDJwaXfpQgkEH9YC284UVjr7au5GEOZxikjy5kJInMaApfJEALw_wcB)

<https://www.mastermover.com/bin-mover/>



# Waste Room/Store Provisions

RECAP, at Appendix D, provides for the minimum requirements for waste rooms / stores, as adapted from BS 5906:2005, as below.

Additional requirements are presented at GCSWS Sections 4.5 and 13.2, to which commitments are given at Appendix D to follow

Feature	Design
Walls and Roofs	To be made of a non-combustible, robust, secure and impervious material with a fire resistance of 1 hour (as tested in accordance with BS 476-21).
Floors	To be made from a hard impervious material with a smooth finish and a minimum thickness of 100mm. There should not be any steps or projections at the entrance.
Doors	Width to be 1.8m – 2m (minimum). To be made of steel or of some other material with a fire resistance of 30 minutes (as tested in accordance with BS 476-22). Should also be self-closing except where they communicate directly with the outside air. Should be hung so that hinges are not damaged where the doors are allowed to swing wide. Should open outward and be capable of being opened from the inside and outside to prevent the risk of individual users becoming trapped.
Door Frames	To be metal, hardwood or metal clad softwood. Door frames should also be situated in the external wall and rebated into the reveals of the opening.
Junctions of Walls with Floors	To be covered with the coving formed to prevent damage to the walls from the containers – in accordance with BS 1703
Drainage	To be via a trapped gully connecting to the foul sewer. Floors should have an appropriate fall towards the drainage point.
Ventilation	Areas for ventilation to be situated as near to the top and bottom of the container as possible with the total ventilation area to be not less than 0.2m <sup>2</sup> .
Lighting	Electrical lighting to be provided by bulkhead fittings within the storage compound with housings rated to IP65 in BS EN 60529:1992. Luminaires to be low energy light fittings and switching should be via proximity detection or time delayed.
Cleansing	A hose union tap with water supply should be provided at the compound.
Access Paths	Should be a minimum of 2m wide and feature a hard finished surface with a dropped kerb to enable ease of access.
Signage	Where multiple bin stores are provided these should be signed so that these can be clearly identified by users e.g. recycling/general waste.

# Draft Developers Minimum Standards Checklist

<b>Developers minimum standards check List</b> <b>Please refer back to the relevant section within the guidance when completing this document.</b> (Developers are advised to <b>review ALL of the guidance</b> as the points in this checklist are just a selection of key requirements)	<b>Standard Met?</b> <b>YES / NO / NA</b>	<b>Notes:</b>
<b>1. External storage containers (pages 7 ,11, 12 sections 2.4, 3.3, 4.3 )</b>		
Has the number of containers required been calculated?	Yes	This is a flat-only development, as a result of which, the appropriate requirements have been used
Has sufficient space to accommodate containers been calculated?	Yes	Note that this assessment has been undertaken in so far as it require for what is an application for outline permission – and will be revisited and refined as and Reserved Matter are addressed as the residential provisions are progressed through the approvals process
<b>2. Internal storage containers (pages 7, 9, 10 sections 2.4, 3.4, 4.4 )</b>		
Has sufficient space to accommodate containers been calculated?	TBC	Note that as this is an outline application only, designs have yet to be finalised, but will conform to the requirement within GCSWS
<b>3. Crew pull distances (pages 10, 11 section 4.5)</b>		
<b>Houses</b> - Are all bins able to be presented kerbside? If not, what arrangements have been made for collection points? Has this been discussed/agreed with GCSWS?	n/a	
<b>Flats</b> - Are all pull distances for collection crews less than 10 metres from bin store to kerb collection point?	No	Note that the development is to comprise two types of flats,

<b>Flats</b> - Where any pull distances are more than 10 metres from bin store to kerb collection point, have alternative arrangements been made with managing agents to transport the bins to the collection points? (Please state what the arrangements are in the notes box.)	Yes	'build-to-rent' and private-for-sale / affordable. The former are to be serviced by a 3 <sup>rd</sup> -party service provider, while the latter is to be serviced by the Council, will assistance regards drag distances >10m by the site's combined FM team
<b>4. Pathways &amp; collection areas (page 11 section 4.5)</b>		
Are paths from bin stores to kerb side collection points direct, smooth and level?	Yes	NOTE that for all of these elements, as the application is for outline permission presently, these design items have yet to be finalised, but will reflect these requirements when this is done
Do paths from bin stores to kerb side collection points avoid hazards such as parked cars?	Yes	
Are gradients between the bin store and collection point no more than 1:12?	Yes	
Are steps avoided between the bin store and collection point?	No	
<b>5. Bin stores (page 10 section 4.5)</b>		
Has sufficient space been allocated for the number of bins required?	Yes	See response at Item 1
Does the bin store meet bin store design requirements?	Yes	NOTE
Do bin store keys/codes/automatic locking systems meet the required standards?	Yes	Please see the above comment regards design status
If bin stores are housed in underground car parks have managing agents been appointed to move bins to the collection point?	n/a	
Are bin stores free from parking spaces, parked cars and parking bays?	Yes	
Are bins segregated from bike stores or other types of bins eg commercial ?	Yes	No shared commercial / residential accommodation
Will adequate lighting be provided in the bin store?	Yes	Requirements of BS5906:2005 and GCSWS Section 4.5 will be met
Will external bin store doors be wide enough, do they fold back and have floor bolts and door hooks fitted?	Yes	NOTE Minimum standard set out in BS 6095:2005 and GCSWS Section 4.5 will be met, reflecting the design present design status, which is
Will internal doors between accommodation and bin stores be easily accessible and have coded entry systems or similar for residents including those with disabilities ?	Yes	
Will bin store doors and walls be protected from damage with metal strips?	Yes	

Will dropped kerbs be installed outside bin stores or within 10m of bins store?	Yes	commensurate with an application for outline consent
Do bins take the most direct route from bin store to refuse vehicle? And avoid need to move around trees, for example?	Yes	
<b>6. Non commercial Bulky items (page 12 section 5)</b>		
Has space been planned in to store bulky items prior to collection?	Yes	See response to Item 1
<b>7. Vehicles and roads (page 13 section 9)</b>		
Will all roads be built to adoptable standards?	Yes	Note that the roads will be built to an adoptable standard, although they may not be offered for adoption
If roads will not be built to adoptable standards have designated bin collection points been planned that are on or next to roads built to adoptable standards?	n/a	
Are access routes both wide and high enough to accommodate all collection vehicles?	Yes	Note that no height restrictions, therefor width only
Is there sufficient clear space around the vehicle to allow efficient operation ?	Yes	
Has development design taken into account the risk of residential parking (either on the public highway outside the development site or inside the development) impeding collection vehicle access?	Yes	
Are there restrictions on vehicle parking along access routes used by collection vehicles in the development?	Yes	
Can collection vehicles turn around in the development or reverse in line with the guidance?	n/a	Through-travel provided for at all times
Have hammer heads, turns and reverse manoeuvre's been avoided where possible?	Yes	The need for hammer-heads has been minimised, but where provided their layout includes for a general parking exclusion, with reversing movements minimised.
If turning heads or hammer heads have not been avoided is there sufficient space to turn without reversing and will parking restrictions be in place where turning heads and hammer heads will be located?	See comment	Note that no turning heads are required for the residential element of the proposed development

If bollards will be installed, do they allow easy access and will spacing between bollards be wide enough to accommodate vehicles?	n/a	
If barrier systems will be installed will they allow collection crews to access sites easily (e.g. ANPR) and out of hours?	n/a	
Will traffic management measures (e.g yellow lines) be in place where the risk of parked cars exists ?	Yes	
Are roads free from drainage ditches (Swales)? If not, will there be hard standing areas outside bin stores?	Yes	
<b>8. Vehicle tracking documents (page 15 section 9.4)</b>		
Have vehicle tracking documents been designed and submitted which detail the vehicle journey, crew pulling distances, vehicle reverses, collection points, bin store locations, parking, road dimensions and street furniture?	Yes	Revised for re-submission
Has a meeting been arranged with GCSWS to go through all documents (large developments only)	No	To be sought as the application moves through the approvals process
<b>9. Underground bins (page 16 section 10)</b>		
If the development has high density properties, have underground bins been considered as a priority?	Yes	Underground system has been considered, but it has been decided that this will not be taken forward – see revised draft OWMP and response to Council comments to application
If underground bins are being considered has the developer consulted directly with GCSWS about them?	n/a	
Have fill monitoring systems been considered?	n/a	
Have maintenance methods and costs been factored into plans?	n/a	
Are bin locations free from street furniture e.g. trees and lampposts?	n/a	
Will large cardboard be managed during occupation phases?	n/a	
Have bin types been considered and discussed with GCSWS?	n/a	
Has food and garden waste management been considered?	n/a	
Are roads sufficient in size for a large collection vehicle and are road surfaces even?	n/a	
Are lay-bys beside bins wide enough for a large vehicle to pull in but not wide enough for a car to park?	n/a	

Will parking enforcement be in place?	n/a	
Are bins close enough to roads and not too close to buildings?	n/a	
Have bunker and receptacle lid opening directions been considered?	n/a	
Are road bollards or barriers easily accessible by collection crews?	n/a	
Has the management of those requiring an assisted collection been considered?	n/a	
<b>10. Commercial premises (page 22 section 13)</b>		
Bin stores design is the same for commercial properties as it is for domestic properties. Has the developer completed questions on section 5 of this checklist?	Yes	See below for duplicate response
<b>5 (C). Bin stores (page 10 section 4.5) NOTE for commercial premises only</b>		
Has sufficient space been allocated for the number of bins required?	Yes	
Does the bin store meet bin store design requirements?	Yes	
Do bin store keys/codes/automatic locking systems meet the required standards?	Yes	Note these item will be detailed/ provided at detailed design stage, but the commitment is given here
If bin stores are housed in underground car parks have managing agents been appointed to move bins to the collection point?	n/a	Note that managing agents will be available to assist commercial waste management enterprises once appointed, as this is unlikely to be a service sought from the Council
Are bin stores free from parking spaces, parked cars and parking bays?	Yes	
Are bins segregated from bike stores or other types of bins eg residential?	Yes	No shared commercial / residential accommodation
Will adequate lighting be provided in the bin store?	Yes	Requirements of BS5906:2005 and GCSWS Sections 4.5 and 13.2 will be met
Will external bin store doors be wide enough, do they fold back and have floor bolts and door hooks fitted?	Yes	

Will internal doors between accommodation and bin stores be easily accessible and have coded entry systems or similar for residents including those with disabilities ?	Yes	
Will bin store doors and walls be protected from damage with metal strips?	Yes	
Will dropped kerbs be installed outside bin stores or within 10m of bins store?	Yes	
Do bins take the most direct route from bin store to refuse vehicle? And avoid need to move around trees, for example?	Yes	



Has the likely level of waste been calculated?		
Will storage space be sufficient to store a minimum of two days waste for two waste streams?		
Will bins be accessible to collection crews 24/7?		
If the store is accessible directly from the street will doors be secured by key-code locks rather than physical keys?		
Can site users enter bin stores through internal doors?		
Has space been planned in to store bulky items prior to collection?		
<b>11. Mixed Use Developments (Domestic and Commercial) (page 11 section 4.5)</b>		
Has segregated waste storage been provided for the commercial and residential elements of the development?		
<b>12. Bring banks (page 20 section 11)</b>		
Have bring bank requirements been established?		
Will cardboard skips be required during occupation phases?		