



## Appendix C11: Waste Management and Collection Topic Paper

### Introduction

The Greater Cambridge Shared Waste Service provides a waste management collection to over 126,00 households and empties over 32,000 bins each day. GCWS recognises it has a spectrum of housing types both established and new to service and this diversity is expanding. This paper summarises the position of the GCWS in its approach to waste management provision at existing and new developments to inform the North East Cambridge Area Action Plan.

### Key Evidence Documents

- Resources and Waste Strategy for England
- 25 Year Environment Plan
- Waste Management Plan for England
- National Planning Policy for Waste
- Cambridgeshire and Peterborough Joint Waste Management Strategy
- Cambridgeshire and Peterborough Supplementary Planning Document and Design Guide for developers
- Greater Cambridge Shared Waste collection Policy

### National Planning Policy Framework

The environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

### Waste Management Plan for England

The Waste Management Plan for England sets out the Government's ambition to work towards a more sustainable and efficient approach to resource use and



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management. Positive planning plays a pivotal role in delivering this country's waste ambitions through:

- delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits, by driving waste management up the waste hierarchy;
- ensuring that waste management is considered alongside other spatial planning concerns, such as housing and transport, recognising the positive contribution that waste management can make to the development of sustainable communities;
- providing a framework in which communities and businesses are engaged with and take more responsibility for their own waste, including by enabling waste to be disposed of or, in the case of mixed municipal waste from households, recovered, in line with the proximity principle and dealt with as close to the source of the waste;
- helping to secure the re-use, recovery or disposal of waste without endangering human health and without harming the environment; and ensuring the design and layout of new residential and commercial development and other infrastructure (such as safe and reliable transport links) complements sustainable waste management, including the provision of appropriate.

### **Greater Cambridge Waste Service Aims and objectives 2019-20**

The key objectives of the shared waste service are to:

- deliver a safe and legally compliant service;
- maintain and improve service quality that residents can see and appreciate;
- lower operational costs, particularly in the areas of premises, management, administration, fleet and equipment costs;
- increase opportunities to market and compete for additional business, for instance in relation to trade waste;



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- find new opportunities to reduce net costs in relation to fleet procurement and maintenance;
- achieve service improvements, greater resilience and better performance, through shared knowledge and experience;
- enhance opportunities to work with other Cambridgeshire local authorities via the Recycling in Cambridgeshire and Peterborough Waste Partnership (RECAP) to reduce waste collection and disposal costs, improve income and secure service improvements;
- deliver the KEY Performance Indicators' (KPI's) for the service;
- deliver the ongoing benefits of a shared service through change and innovation.

KPI's for the service are to recycle 50% of the waste collected in 2019/20 and to collect 99.5% of bins as scheduled.

### (Relevant) Operational Plans for 2019/20

- Service wide and local focused material quality campaign to reduce contamination in the recycle.
- Implement changes to Yotta Alloy data management system for both streets and waste service to further improve digital end-to-end customer processes.
- Work with RECAP partners on contract reviews and partnership opportunities.
- Identify and develop operational plans to ensure the service will comply with the national 25 Year Resources and Recycling Strategy.

### Greater Cambridge Waste and Recycling Policy

The Councils want to develop services that result in reductions in carbon emissions, and support the waste hierarchy, putting waste prevention first. The Waste Service is committed to increasing recycling in order to maximise use of finite resources thereby minimising energy use and waste disposal.



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The Waste Service supports national and European pressures for change to reduce the amount of biodegradable waste that is sent to landfill. It addresses tightening health and safety laws, ensuring that the Council maintains safe, economic and efficient recycling and waste collections.

**The Standard Waste Service consists of:**

- 240 litre black bin or white sacks for general waste
- 240 litre green bin or brown sacks for garden and food waste
- 240 litre blue bin, boxes or transparent sacks for mixed dry recyclables
- Properties such as flats or accommodation blocks will normally use communal 1100 litre and 660 litre wheeled bins
- In most cases the service operates an alternate weekly collection with the exception of green waste that is collected on a monthly basis from December, January and February.

It is policy to be flexible on how the collections are provided to new developments and would welcome a mixture of solutions for house and flats including the use of underground as appropriate.

The Current waste collection policy can be found on the Cambridge City Council and South Cambridgeshire District Council websites:

<https://www.cambridge.gov.uk/bin-collection-performance-and-policy>

<https://www.scams.gov.uk/bins/recycling-and-reducing-waste/our-policy-and-performance/>

**Cambridge and South Cambridgeshire Local Plans and other related planning documents**

Relevant documents have been highlighted in the evidence base at the start of this topic paper.



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The RECAP Supplementary Planning Document needs reviewing and does not fully reflect the latest guidance from the Greater Cambridge Waste Service. Until this is reviewed it should be considered in line with up to date guidance on the Cambridge City Council and South Cambridgeshire District Council websites:

<https://www.cambridge.gov.uk/recycling-and-waste-guide-for-developers>

<https://www.scambs.gov.uk/planning/planning-permission/developer-guidance/waste-and-recycling-guide-for-developers/>

### Current Waste Collection Provision

Waste Management and collection provision to residents in Cambridge and South Cambridgeshire has traditionally been through the use of 240 litre two wheeled bins for houses and larger 1100 litre 4 wheeled bin for flats. Bins at flats have been contained within bin stores, cupboards and compounds of varying styles. To compliment the provision at the home these have been supplemented with community bring bank sites typically for items not collected from the home, e.g. textiles, books, small waste electrical items.

Over the last 5 years this approach has shifted to incorporate underground storage systems within new developments. These blend more successfully into the street scene and offer the option to replace traditional bins at houses, flats and above ground bring bank sites.

There are multiple benefits such as:

- Space efficiency in designing properties as no storage of bins within the property is needed.
- Eliminates the dumping of rubbish in bins stores and bring sites which creates practical and environmental difficulties and a financial burden for residents, managing agents and the Council.
- More efficient collection of rubbish (emptying fewer bins and less often). Bins can be remote monitored to help schedule collections.



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- Residents can use the bins when they wish with no collection days to remember.
- Increases the quality of the recycling collected.

Current provision includes:

#### **Eddington, Cambridge**

- All houses and flats have underground for rubbish and recycling. Exclusively HIAB (vehicle mounted cranes) system.

#### **Chesterton Road, Cambridge**

- Bring banks for dry mixed recycling (hydraulic lift system).

#### **Hawkey Road, Trumpington, Cambridge**

- Bring banks site for dry mixed recycling and Small Electrical (HI-AB and hydraulic lift system).

#### **Fawcett Road Abode Estate, Trumpington, Cambridge**

- Bring banks site for dry mixed recycling and small electrical (HI-AB and hydraulic lift system).

#### **Glebe Farm Drive, Trumpington, Cambridge**

- Bring banks for dry mixed recycling and small electrical items (HI-AB and hydraulic lift system)

#### **Osprey Drive, Trumpington Meadows, Cambridge**

- Bring banks for textiles and small electricals (hydraulic lift system)

Eddington is the only location so far where it has exclusively replaced wheeled bins for house and flats by using an underground collection system for general waste and recycling. Communal bring banks are used for garden and food waste that is collected and taken to be composted by site management.

### **Performance Data**

Greater Cambridge Waste Service has a good recycling rate as shown below.

	2018/19
Quarter 1	55.60%
Quarter 2	51.50%
Quarter 3	50.29%
Quarter 4	45.77%
<b>Annual</b>	<b>51.07%</b>

The amount of new development and therefore new residents makes maintaining this good performance a challenge. Robust communications from the Council is vital for new residents but provision of suitable collection arrangements can have a fundamental effect on residents' participation in a scheme, both in terms of quantity and quality of recycling collected.

In particular, the success of recycling collection can be hampered by ineffective design of communal collection from flats. Greater Cambridge has a significant number of existing flats and new ones being developed. Residents in flats have little accountability for their waste which leads to abuse of bins (putting the wrong items in meaning it cannot be recycled) and abuse of bin stores themselves (dumping of items in bin stores). When this happens, the waste service cannot access the bin to empty it, it is very unpleasant for residents to use and interest and good will to do the right thing wanes.

If bins cannot be emptied on the first occasion and it is necessary to return, or excess waste needs clearing, the cost of this is borne by the Council, Managing agent and the tax payer.

Of the 51% recycling rate in 2018\_19 about 23% was dry mixed recycling and the 28% garden and Food waste. By comparison the amount of dry mixed recycling collected from Eddington underground communal recycling areas is over 30%.

More open bin storage arrangements can have a positive effect, whether these are freestanding above ground or underground. They make the facilities more pleasant to use, reduce antisocial behaviour and ongoing costs. They can even foster better social interaction and neighbourliness.



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A recent analysis of the general rubbish collected (summer 2019) has shown how much more food waste is left in rubbish bins than is recycled, and highlights how much more food waste, paper and plastic there is to capture. Successful design of waste storage will have an important part to play in achieving this.

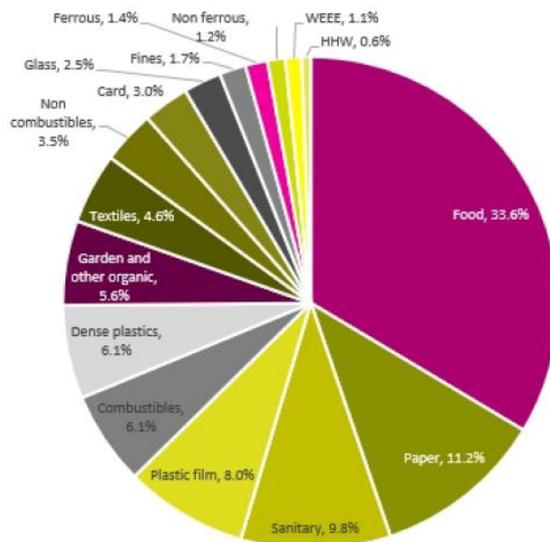


Figure 30 Composition of kerbside residual waste in Greater Cambridge Shared Services (%)

Image from RECAP Waste Analysis report, Resource Futures July 2019

## Summary of responses to NEC AAP Issues & Options Report 2 (2019): Question 69: Should the AAP require the use of an underground system where this is viable?

Question	Key Issues from Issues and Options consultation 2019
Q69 Waste Collection (Support)	<ul style="list-style-type: none"> <li>• U+I Group PLC – Rather than committing to any specific type of solution at this stage, it will be necessary to understand whether innovative systems used on other sites, (e.g. North West Cambridge), can be applied here.</li> <li>• Good idea, particularly to avoid the scourge of wheelie bins being scattered all over footways. Consider providing waste collection points to minimise street clutter.</li> <li>• Household waste systems to be similar to Eddington.</li> </ul>



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Q69 Waste collection (Comment)	<ul style="list-style-type: none"> <li>• Cambridge Past, Present &amp; Future – Before committing to any particular system, a full appraisal of facilities used at Eddington should take place.</li> <li>• Trinity College, Cambridge/Brookgate Land Limited - This would be difficult to retrospectively fit to CSP but would be more viable for new large scale development.</li> <li>• Refer to Eddington for methods.</li> </ul>
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Greater Cambridge Waste service would recommend that underground system is considered for blocks of flats instead of traditional bins stores. This should cater for general rubbish, dry mixed recycling, and food waste.

It may also be possible that houses (especially those near flats) could also use this same disposal point where appropriate.

If these houses have gardens (or the ground floor flats have gardens they are responsible for) then provision needs to be made for the collection of garden and food waste, otherwise they would only have food waste to dispose of as per the flats.

Houses that have space for storage of their own set of wheeled bins could be provided with those for all 3 waste streams. (General, recycling, mixed garden and food).

**Other Key Issues:**

- Yellow lines in public realm areas are a must adjacent to communal collection points for flats or for bring banks. This deters cars parking in spaces that are needed by refuse collection lorries. Underground containers cannot be lifted over vehicles when being emptied and a clear line of access to the vehicles is needed to pull wheeled bins. They should not be pulled past parked cars to get the lorry.
- Appropriate provision for garden and food waste needs to be considered.
- There should be no street furniture close the underground bunkers as to not interfere with the crane operations in the emptying of the bins.

## Type of system and what is to be collected:

What system is most appropriate is depend on;

- Location
- Size of development
- Service user-Houses or flats
- What is being collected

Types of waste	HI-AB system (larger container sunk into in the ground. Needs vehicle mounted crane to lift)	Hydraulic system (Hydraulic powered platform on which a wheeled bin stands. Can be emptied by traditional collection vehicle)
General rubbish	X	X
Dry mixed Recycling	X	X
Garden waste	X	X
Food waste		X
Mixed garden and Food	X (smaller size container needed)	X
Bring banks for textiles, books and Small electricals		X

It is entirely possible to have a mixture of traditional wheeled bins at some properties or houses and underground system for communal collection arrangements.

As an alternative approach the ENVAC system has been used extensively elsewhere in Europe and closer to home at the Wembley redevelopment. Higher density development is required to make such a system viable. At Wembley there is a gross density of 122dph (average across the masterplan area), but this includes the stadium development and as such the overall NET density is higher than 122dph. The 'Housing Design Handbook' by Levitt et al (2018) says that 'it is hard to imagine the system being economic in developments of less than 100-150dph'.



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Densities at NEC are 150-350dph so potentially suitable. According to the ENVAC website it reduces 'waste collection lorry miles by up to 90%'.

### Preferred Approach

Underground collections points are proven and could be beneficial to a site such as this. On implementing an underground system, advice must be sought on bin type and size. Before any schemes are implemented it is necessary to ensure that policy requirements are included as per authority's waste policy documents.

The Greater Cambridge Waste Management Service understand that the high density of dwellings at North East Cambridge may pose challenges in terms of number of underground collections sites, but it may be possible to balance this with increased collection frequency.

As an alternative to underground banks, Greater Cambridge Waste Service would also be willing to consider the use of a system such as that provided by ENVAC in Wembley (installed in 2008) and Barking and Dagenham in London (Autumn 2019). This system still uses communal waste drop off points, as per the Eddington site, but instead of many individual bunkers below each receptacle, these drop off points are linked via underground pipes to a central collection hub and so the underground infrastructure is substantial. Once a certain amount of waste is deposited, the waste is sucked along the pipes to this central hub and means all waste is picked up from one location from the Council.

Barking is only the second site in the UK to use this technology, following the installation of the system at Wembley in 2008. Globally over 1,000 locations – from use the Envac waste management set up <https://www.envacgroup.com/>.

It is further recommended that the Bring Banks Sites are underground as it reduces antisocial behaviour around these community facilities.