Suffolk Waste Partnership

Waste Technical Guidance for Residential and Commercial Developments

February 2019

1 Introduction

1.1 This guidance sets out how future development will achieve waste segregation and work towards meeting the Suffolk Waste Partnership (SWP) objectives. The document seeks to ensure that waste and recycling issues are taken fully into account as early as possible in the planning process. It also seeks to ensure that the need for waste segregation, recycling and collection is taken into account in the design and layout of developments.

1.2 The Suffolk Waste Partnership is:

1.2.1 Babergh District Council (BDC)
1.2.2 Ipswich Borough Council (IBC)
1.2.3 Mid Suffolk District Council (MSDC)
1.2.4 Suffolk County Council (SCC)
1.2.5 West Suffolk Council (WSC)
1.2.6 East Suffolk Council (ESC)

1.3 The objectives of this guidance is to assist the provision of effective and efficient residual, recyclable and compostable waste collection services;

1.4 The waste management needs of different types of development vary but all require consideration of storage capacity, location and where to present bins for vehicle collection. Guidance for all development and specific guidance for residential and commercial development is set out below. The guidance note requests that developers comply with these recommendations where applicable. Additional guidance that relates to general waste management practice, rather than planning, is clearly identified and is included in order to clearly sign post developers to other associated requirements.

2 The Waste Hierarchy

2.1 The 'waste hierarchy' is a way of thinking about waste as a potential resource. The aim is to move waste management up the waste hierarchy with the ultimate goal of achieving a zero-waste society. As shown in Figure 1, the most favoured option is to prevent waste by using resources efficiently, then reusing items; for instance, furniture and clothes. Many materials such as glass and paper can be recycled but if this is not possible, gaining energy from waste may be an option. Landfill is the last resort. The Waste Hierarchy forms part of the Waste Framework Directive which was transposed into United Kingdom law in 2011.

Figure 1: The Waste Hierarchy

2.4 Considerable progress has been made by the SWP over recent years to reduce the reliance on the landfilling of municipal waste and increase recycling. This has been achieved through a comprehensive recycling service and measures to increase the number and types of materials that can be recycled. A kerbside recycling collection is provided to every household, and a network of Household Waste Recycling Centres and recycling Bring Sites throughout Suffolk helps to achieve and exceed targets set by the English Government and the EU.

2.5 In order to meet England's 50% recycling target by 2020, as set out in the Waste Framework Directive and comply with other emerging requirements, such as the Resource and Waste Strategy 2018, it is essential that existing facilities are upgraded and new facilities for separating and processing waste are introduced, as required, to deal with the increasing demand for waste management generated by new development.

2.6 It is crucial that development takes proper consideration of its potential impact on the existing waste management infrastructure and on the recycling/landfill diversion targets set by the English Government and EU Directives.

3 Key Issues for All Development Types That Produce Waste

3.1 There are a number of key waste management issues that apply to all types of development, that generate waste, and these are:

- **Adherence to the waste hierarchy:** Developments should aim to reduce the amount of waste generated in the first instance. However, where waste is generated, the incorporation of recycling facilities/waste collection service arrangements at the design stage will help to ensure that waste diversion is easy and convenient to implement.
- **Access:** It is important to design safe, easy and convenient access for both users of waste facilities and those who collect waste
- **Pollution:** Waste materials can be hazardous, create odours, noise and/or attract vermin. It is essential that any design and layout considers this potential impact
- **Safety:** Waste storage can create a fire hazard and if not stored properly can have an impact on human health. Waste storage must be addressed at the design stage to ensure that any negative impact on human health is minimised
- **Visual Impact:** Wheeled bins, recycling boxes and commercial waste bins all have an impact on the street scene and local landscape quality, which can detract from the amenity of the area

4 General Guidelines for Waste in Residential Development

4.1 Residential developments vary considerably in scale and nature, from single houses to large developments, and their waste management needs will also vary greatly. However, all require consideration at an early stage of the amount of storage capacity needed, the location of facilities and where bins will be presented for vehicle collection. New residential development also places additional demand on Household Waste Recycling Centres and recycling 'bring points'. In more rural areas Strategic Road End Collection Points are utilised to increase service efficiency. Detailed requirements and guidance on these issues are considered below.

<u>Storage Capacity in Residential Development</u>

4.2 It is essential that adequate provision is made for waste segregation, storage and collection to encourage everyone to play their part in effective waste management and to raise awareness of waste issues. However, this approach must be pragmatic and address actual needs of a particular development without sacrificing valuable space unnecessarily.

4.3 The Environmental Protection Act 1990 places various waste management duties on Local Authorities. Under Section 46 (Receptacles for Household Waste) a Local Authority will require:

- Waste of certain types to be stored separately so that they can be recycled
- Locations where containers should be placed for emptying to be agreed

4.4 Bin storage requirements will vary across residential property types, but it is essential that in all cases, development satisfies the Building Standards for solid waste storage, particularly for domestic development.

Storage and Collection Points – Residential Development

4.5 Waste is typically taken from its point of generation to a temporary storage point outside the building and then moved to a previously agreed point for collection. As such, storage points and collection points should be convenient for both the user and the service crews to access without presenting a risk to health and safety. This includes dropped kerbs being provided as necessary. This will ensure the provision of safe and convenient waste collection in addition to positively promoting the logistics of the development to prospective householders.

4.6 Collection points should be hard surfaced and should be of a size that will be capable of accommodating the required number of bins so there is no overflow onto footways or roads. These collection points should be detailed during the planning pre-application process. Means to prevent/control potential pollution from contaminated water run-off should be included where appropriate.

Table 1: STORAGE CAPACITY – RESIDENTIAL DEVELOPMENT	
Key Consideration	Requirement
Internal Storage Capacity	** Sufficient internal capacity to allow segregation of residual waste, recyclable waste and, where appropriate, food waste.*
External Storage Capacity	** Appropriate amount of space to fit the required external storage containers for domestic waste (3 x 360 litre bins)*
	*** In the case of communal bin stores – individual lockable bin suites to be provided for each property with adequate space to house the required receptacles e.g. residual, recycling, organics allocated to that household*
Additional Points	** Developers will be required to ensure the provision of all external containers for homeowners use, prior to occupation.*

Table 2: STORAGE AND COLLECTION POINTS - RESIDENTIAL DEVELOPMENT	
Key Consideration	**Requirement**
Residential Storage Points	* Provision should be made for all waste containers to be stored within the boundaries of the property until presentation for collection
	* *Each property should have adequate storage space to fit the required external storage containers for domestic waste (3 x 360 litre bins)*
	* All waste containers must be housed within a designated area or structure as appropriate in such a way that it minimises fire risk
	Provision for the storage of waste containers must be made within the curtilage in an area that is readily accessible to occupants.
	* Waste containers should not have to be moved through a building to the collection point
	* All waste containers should be located in a well ventilated, shaded area away from windows of properties.
	* **For flats only:** Although this type of development may make use of communal storage areas, each property must have adequate storage space for allocated individual receptacles
	** In the case of communal bin stores – individual lockable bin suites to be provided for each property with adequate space to house the required receptacles, bin stores must be covered
	** For managed high-density residential development, including multi-occupancy, it may be appropriate to provide covered accommodation for additional storage space for bulky household items. The need or not for such will be identified at the application stage.
Residential Storage and Collection Points – Distances and Gradients	* **For individual dwellings (not flats) only:** Residents should not have to move waste more than 30m to any designated storage area within the boundaries of the property
	* **For flats only:** Residents should not have to move waste more than 30m (excluding vertical distance) to any designated storage area within the boundaries of the property.
	* Any designated storage area within the boundaries of the property should not be more than 30m distance from the collection point, to minimise the distance householders need to move their waste
	* Collection crews should not have to carry individual waste containers or move wheeled containers in order to facilitate their collection. (This requirement excludes the provision of assisted waste collection services where appropriate)
	* Passage of a wheeled container should never encounter steps. Drop kerbs should also be provided between the collection point and the collection vehicle.
	* In all cases, drop kerb gradients should not exceed 1:12 and be at least 1.828 metres in width.
Collection Points	* Collection points for residents' use should be identified at planning application stage. If the property is gated, then the collection point should be outside the secured perimeter but not on the public road/highway.
Composting	** Consideration should be given by developers to communal composting facilities within new development. Private or communal gardens/ amenity areas should, where possible, be laid out so that sufficient space is allowed for home composting

Table 2 continued: STORAGE AND COLLECTION POINTS - RESIDENTIAL DEVELOPMENT	
Additional Points	The Suffolk Waste Partnership aspires to provide all residents with individual bins. Developers must demonstrate why communal bins would be beneficial for any specific development.
	In flatted developments, developers should provide an area for communal glass recycling bins where the waste authority deems it appropriate.
	In the case of individual dwellings – new householder packs to be provided by the waste authority which include, collection arrangements, presentation times, collection point and clear instructions on materials accepted. Bin stickers will be provided by the waste authority for each material stream. In the case of communal bin stores – clear signage to be put in place outlining collection arrangements, presentation times, collection points, clear instructions on materials accepted and which flat numbers/block are entitled to use the bin store. Bin stickers should be provided for each material stream. All communication material used should follow the Suffolk Waste Partnership branding.

Examples of good and bad bin placement

Good – bins off the highway

Bad – bins on the highway

Example of good and bad communal bin storage

Good – Spacious and well-lit

Bad – Cramped and dark

Example of good and bad access

Good – wide access to store with drop kerb

Bad – Narrow access and/or likelihood for obstacles

Communal Street Collection Points

4.7 Refuse and recycling collection points should be established at road ends and on-street where access to a specific collection point is deemed by the waste authority to be problematic or where the development proposal will require the collection of domestic wastes and/or recyclables on the basis of the requirements shown in table 3, below.

Table 3: COMMUNAL COLLECTION POINTS	
Key Consideration	**Requirement**
Communal Collection Points (where bin collection is being considered in relation to 6+ individual households)	* Specific communal collection points where individual bins will be presented for emptying, must be identified at planning application stage and agreed with the waste authority. Communal collection points must not be on the public highway (except in exception circumstance as defined by the waste authority).
	* The maximum distances that any one household should normally be required to move a receptacle in this regard will be 50m (accept assisted collection services).

Exceptions to the Rule

4.8 Where the need for an exception to the general requirements set out in section 4 can be justified, innovative proposals may be considered. However, opportunities are limited by the operational design of Council collection vehicles and Waste Services must be consulted on any proposals for exceptions, early in the process.

5. General Guidelines for Waste in Commercial, Retail and Industrial Development

5.1 If you run a business in England you are already legally responsible for safely disposing of any waste your business produces (Section 34 Environmental Protection Act 1990). Further information on commercial/business waste responsibilities can be found at https://www.gov.uk/managing-your-waste-an-overview

5.2 As commercial premises differ greatly in the volumes and types of waste produced, it is essential that consideration is given to waste arisings (both volumes and types) in order to establish the appropriate level of storage and presentation capacity within the development. This will ensure the provision of safe and convenient waste collection in addition to positively promoting the logistics of the development to prospective businesses.

Storage Capacity – Commercial Development

5.3 The amount of waste storage required for any given development type is determined by a number of factors including:

- Volume and composition of waste
- Segregation required
- Any on-site treatment
- Collection frequency

5.4 It is essential that adequate provision is made for waste segregation, storage and collection to encourage participation in effective waste management. However, this approach must be pragmatic and address actual needs of a particular development without sacrificing valuable space unnecessarily.

Table 4: STORAGE CAPACITY – COMMERCIAL DEVELOPMENT	
Key Consideration	**Requirement**
Internal Storage Capacity	*Sufficient internal capacity to allow for the appropriate segregation of residual waste, recyclable waste and organic waste.
External Storage Capacity	* It is essential that consultation is undertaken with the relevant authority as to anticipated waste arisings (both volumes and types) in order to establish the appropriate level of storage and presentation capacity within the development
	*Sufficient external capacity is provided to allow for the required number and type of external commercial waste storage containers within the boundaries of the property.
Additional Points	*Arrangements to be made to ensure waste containers are in place on occupation of properties to enable collection service to commence

Storage and Collection Points – Commercial Premises

5.5 As commercial properties differ greatly in the volumes and types of waste produced, it is essential that consultation is undertaken with the relevant authority as to anticipated waste arisings (both volumes and types) in order to establish the appropriate level of storage and presentation capacity within the development. Storage points and collection points should be convenient for both the user and the service crews to

access without presenting a risk to health and safety. Collection points should be hard surfaced and should be of a size that will be capable of accommodating the required number of bins so there is no overflow onto the public right of way. These collection points should be detailed during the planning pre-application process. Means to prevent/control potential pollution from contaminated water run-off should be included where appropriate.

Table 5: STORAGE AND COLLECTION POINTS – COMMERCIAL PREMISES	
Key Consideration	**Requirement**
Commercial Storage and Collection Points	**In the case of mixed-use development – commercial bin store area to be separate from domestic bin store area
	**A designated area or structure for the storage of waste containers must be provided.
	*All waste containers must be readily accessible to the user and the collection agent.
	*All waste container storage areas must be located in a well ventilated, shaded area away from windows
	*Storage points and collection points should be convenient for both the user and the service crews to access without presenting a risk to health and safety. This includes dropped kerbs with a minimum width of 1.828 metres being provided as necessary.
	*Collection points should be hard-surfaced and should be of a size capable of accommodating the required number of bins so there is no overflow onto the public right of way. Means to prevent/control potential pollution from contaminated water run-off should be included where appropriate.
	*The location of collection points should be identified at planning application stage and where a business occupier has been identified a waste management plan should be submitted.
	*Provision should be made for all waste containers to be stored within the boundaries of the property until presentation for collection in such a way that it minimises fire risk

Storage Compounds – Residential and Commercial Premises

5.6 Where waste is collected on a communal or commercial basis it is good practice to construct a storage compound to house the waste containers. Any such compounds must be fit for purpose, robustly constructed and fully functional, allowing ease of use by those resident/working at the property and those servicing it, the general principles being:

- Access to bins
- Adequate space for function
- Use of suitable building materials
- Health and Safety
- Security
- Environmental protection

5.7 At its most basic, a waste storage compound may comprise a slatted fence surround with hardstanding, including suitable drainage (open-air compound). A storage compound may comprise an enclosed structure (enclosed compound).

In all storage areas, it must be clearly demonstrated that the requirements detailed in table 6 are complied with.

Table 6: STORAGE COMPOUNDS – RESIDENTIAL AND COMMERICAL PREMISES	
Key Consideration	**Requirement**
Minimum Specifications for Waste Storage Compounds	*Appropriate amount of space to fit the required external storage capacity See table 1 & 4 storage capacity.
	*Sufficient clearance to allow full opening of bin lid
	*150mm clear space between bins
	*Lay out such that each bin can be accessed and moved without having to move any other bin
	*Doorway width's must be wide enough to facilitate easy passage of the bin(s)
	*To be adequately lit – with natural, automatic or sensored lighting.
	*Covered with permanent adequate ventilation
	*Floors constructed using concrete or similar with adequate drainage and means to prevent/control potential pollution from contaminated water run-off where appropriate.
	*Walls to be of a hard, impervious materials that can be washed down
	*All compounds to have lockable doors with a minimum 1.8m clear, unobstructed opening
	*Reinforced drain covers in hard standing areas
	*Buffer plates on walls and doors,
	*Fire alarms higher than bins
	*Guarding around taps, no conduit wiring,
	*Access to key codes & coded keys
	*Accessible for RCV's
	*Sufficient footpath widths leading to compounds
	*DDA compliant
Additional Points	**In some cases, it may be more apt to construct a number of smaller storage units within close proximity to different blocks/retail units as opposed to one large communal bin store area to comply with distances and gradients stated previously. This can be judged at the planning application stage by the planning authority
	*Domestic and Commercial Waste needs to be stored separately in separate compounds
	*The location of bin storage compounds should take into account risk from fire and the impact of odours and noise in relation to nearby properties
	*Under no circumstances will the storage of any waste/waste containers be permitted on the public road or footway
	*Cycle storage should be segregated from waste stores.

Exceptions to the Rule

5.8 Where the need for an exception to the general requirements set out in section 5 can be justified, innovative proposals may be considered. However, opportunities are limited by the operational design of Council or local service provider collection vehicles and Waste Services must be consulted on any proposals for exceptions, early in the process.

6 Waste Collection and Road Design

6.1 The road design and layout of development must take account of the Suffolk Waste Partnership Council's access requirements for refuse and recycling collection vehicles where applicable, as set out below. The Suffolk Design Guide for Residential Areas provides guidance for development on local access and transportation but with regards to waste collection, information on vehicle dimensions, turning circles, etc. can be found in Appendix 2

Table 7: WASTE COLLECTION & ROAD DESIGN	
Key Consideration	**Requirement**
Clear Working Space	*The Suffolk Waste Partnership member authorities use a variety of vehicle types to provide their waste collection and recycling service. Clear space around all vehicle types (domestic and/or commercial vehicles) must be sufficient to allow safe operation.
	* A minimum working area of 3.5m width and 4m in length should be sufficient where emptying of containers takes place
Construction	* In general terms, the foundations and surfaces of any road should be hard wearing and capable of withstanding the maximum anticipated fully loaded gross vehicle weight.
	* Any covers over manholes and gully gratings (and other such infrastructure) should also be formed from materials capable of withstanding the maximum anticipated fully loaded gross vehicle weight (32T).
Tracking (Swept Path Analysis)	* A minimum street width is required for waste collection vehicles. Consideration should also be made with regard to parked vehicles, tree overhang, cables, balconies, barriers and archways, etc. Manual for Streets section 6.8 covers waste collection vehicle needs.
	* The appropriateness for function of carriageways should be evidenced by way of a swept path analysis where requested by the local planning authority.
Routing	* The collection vehicles should operate in a forward gear wherever possible, with adequate turning facilities large enough to accommodate the refuse collection vehicle where the vehicle is unable to drive a circuitous route

7 Additional Requirements for Major Developments

Bring Sites

7.1 Bring Sites are generally located in publicly accessible areas, such as supermarket or public car parks, and typically comprise a number of containers allowing separate collection of materials for recycling. There are approximately 500 Bring Sites operating within Suffolk, serving 332,100 households (2014 figures). A range of materials for recycling including glass, paper, textiles, books and CDs and cans are collected there. The Council pays commercial operators to provide containers and to collect the materials. Continued development in the area will necessitate the provision of further or expanded Bring Site infrastructure.

Table 8: CENTRALISED FACILITIES FOR WASTE RECYCLING (BRING SITES)	
Key Consideration	**Requirement**
Provision of Bring Sites in Future Development	** Developments must take account of the impact of proposals on existing Bring Site facilities and in particular where the development creates or increases the need for such facilities in the local area.
	** Developers may be required to provide additional Bring Site facilities, upgrade existing facilities in the locality or pay a reasonable financial contribution to the Local Authority for provision or upgrade of facilities.
Location of Bring Sites	** Bring Site facilities should be suitably located so as to be easily and conveniently accessible to users but should be at least 30m distance from the nearest dwelling to prevent disturbance to residents
	** In terms of servicing, Bring Sites must be accessible to service vehicles by adoptable roadways and footways, and situated so as to avoid damage to overhead services during servicing. The location of such facilities must be identified to the Local Planning Authority at the planning stage
Additional General Waste Management Practice Points (not planning related)	** Variation from the maximum recommended densities may be considered where a developer can demonstrate to the satisfaction of the Local Planning Authority (such as through a waste audit) that the needs of the occupiers of the development are adequately met
	** Supermarket and retail development over 1000 m2 should provide a public recycling bring point within the development, and the provision of this public recycling bring point should be outlined where applicable. Details on access requirements and footprints of recycling banks can be provided by Waste Services. In the case of Bring site removal from a supermarket or retail development, an alternative Bring site must be designated in line with the guidance.

7.2 Developers may be asked to make land available within major development for additional bring site facilities if it is assessed that the development brings about the need for additional facilities. Guidance on the size and location of land for a bring site will be provided on a case by case basis

Household Waste Recycling Centres

7.3 A network of Household Waste Recycling Centres (HWRC) is provided by Suffolk County Council. The sites are positioned in strategic locations and enable the public to bring waste types that are not generally taken as part of the normal collection round, such as bulky items.

7.4 As required by the Environmental Protection Act (1990) each Local Authority must provide sites for the reception of excess household and garden waste free of charge.

Provision should be sufficient for the needs of the locality. There are currently 11 Household Waste Recycling Centres in Suffolk. The development of these HWRCs has contributed to Suffolk County Council achieving high recycling rates.

7.5 Suffolk will require development of the network through the provision of further infrastructure to cope to future anticipated housing growth.

Table 9: HOUSEHOLD WASTE RECYCLING CENTRES	
Key Consideration	**Requirement**
Contribution to HWRC Infrastructure	** Developers should take into account the impact of their proposals on the existing Household Waste Recycling Centre infrastructure across Suffolk.
	** Developers may be required, in accordance with Section 106/CIL agreements, to pay a reasonable financial contribution to the Local Authority for provision or upgrade of facilities in the local area as outlined in section 2.

9. Glossary of Terms

Acronym	Stands for
SWP	Suffolk Waste Partnership
RCV	Refuse Collection Vehicle
BDC	Babergh District Council
IBC	Ipswich Borough Council
MSDC	Mid Suffolk District Council
SCC	Suffolk County Council
ESC	East Suffolk Council
WSC	West Suffolk Council

Proximity principal	To treat and/or dispose of wastes in reasonable proximity to their point of generation. The principle works to minimise the environmental impact and cost of waste transport.
Mixed municipal waste	Household waste and business waste where collected by the local authority and which is similar in nature and composition
Bring sites	Facilities in accessible areas where members of the public can bring dry recyclable materials (normally; glass, textiles & Paper) but not Household Waste Recycling Centres
Household Waste Recycling Centres	Facilities where members of the public can bring additional waste and recycling not normally collected from the household
Residual Waste	The elements of the waste stream that remains after recycling or organic materials have been separated or removed
Recyclable Waste	The elements of the waste stream that are segregated, collected and reprocessed into the same products or different ones
Domestic Waste	Waste collected from a residential dwelling
Curtilage	The area of land attached to a house and forming one enclosure with it
Waste Containers	Receptacles for the storage of waste; normally wheeled bins but can also include boxes, caddies, containers and sacks
Communal Bin Store	A designated storage point for wheeled bins normally used for a number of communal properties e.g. flats
Bulky Household Items / Bulky Waste	Generally, any item which does not fit into a typical domestic bin
Home Composting	The manufacture of compost material at home (from the breakdown of kitchen and garden waste) using a compost heap, a purpose made container or wormeries.
Community Composting	A facility for more than one dwelling to compost kitchen and garden waste
Assisted collection service	An arrangement for the those who are unable to present their waste and recycling at the kerbside e.g. elderly or infirm
Mixed use development	A development consisting of both residential and commercial units

10. Appendix 1

Standard Wheeled Bin Sizes

Bin size	Height (cm)	Depth (cm)	Width (cm)
120l	93	57	48
140l	105	57	48
180l	107	74	48
240l	107	74	58
360l	108	88	58
660l	131	77	124
1100l	147	100	127

Suffolk Waste Collection Authorities standard wheel bin provision (single dwellings)

	Residual Waste	Mixed Recycling	Garden Waste
Babergh DC	240l	240l	240l
Ipswich BC*	180l	240l	240l
Mid-Suffolk DC	180l	180l	240l
East Suffolk Council	240l	240l	240l
West Suffolk Council	240l	240l	240l

*Council provides free collection of garden waste. All others offer opt in subscription service.

Suffolk Waste Collection Authorities standard wheel bin provision (flats & communal dwellings)

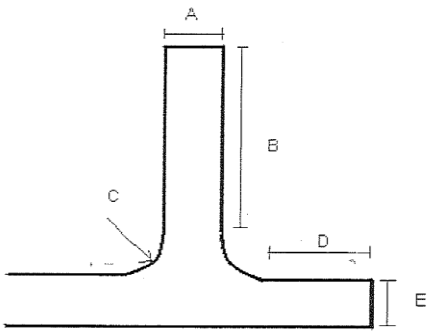
	Residual Waste	Mixed Recycling	Garden Waste
Babergh DC	1100 per 6	1100 per 6	240l
Ipswich BC*	1100ltr per 5 props	1100ltr per 5 props	240 ltr as required
Mid-Suffolk DC	1100 per 6	1100 per 6	240l
East Suffolk Council	1100lt per 5 props	1100lt per 5 props	240lt x as required
West Suffolk Council	Bin required calculated using BS5906:2005		

Note: Guidance 1 x 1100l bin per 6 communal dwellings

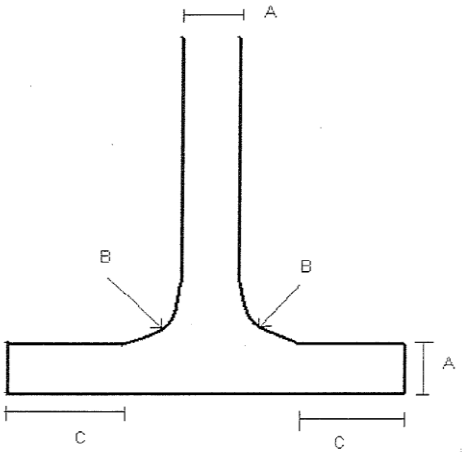
11. Appendix 2

Appendix C. Minimum dimensions for turning requirements of vehicles

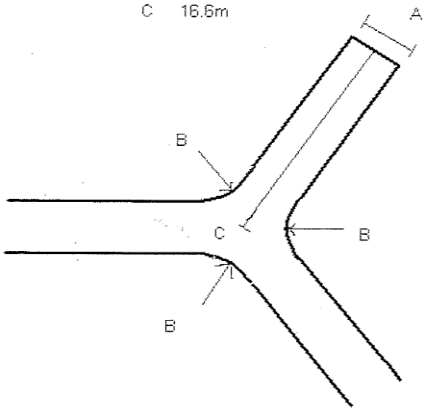
A 5.5m
B 5.0m
C 6.0m
D 7.0m
E 5.0m



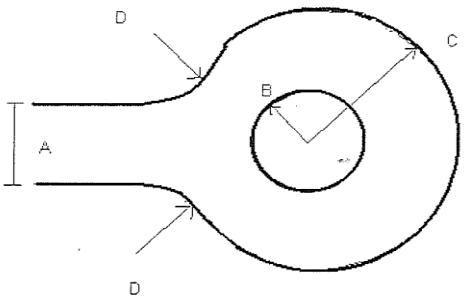
A 5.5m
B 6.0m
C 6.7m



A 5.5m
B 10.5m
C 16.6m



A 5.0m
B 5.75m
C 11.0m
D 6.0m



Standard Waste Collection Vehicles Dimensions :

Waste collection vehicle (three axle 26.00 tonnes GVW)

Dimensions (m)	
Width	3.0 metres
Overall length	11.3 metres
Height	3.8 metres
Kerb turning circle	18.7 metres
Swept circle	20.0 metres
Axle weights – 1st	Up to 7.5 tonne
Axle weights – 2nd and 3rd	Up to 11.5 tonne

Waste collection vehicle (4 axle 32 tonnes GVW)

Dimensions (m)	
Width	2.8 metres
Overall length	11.560 metres
Height	3.65 metres
Kerb turning circle	22.5 diameter
Swept circle	27.61 diameter
Axle weights – 1st	8 tonnes
Front overhang	1.85 metres
Rear overhang	3.260 (with safety arm closed) metres
Axle weights – 2nd, 3rd & 4th	6.8, 8.6 & 8.6 tonnes

Rolonof vehicle (four axle 30 tonne GVW)

Dimensions (m)	
Width	3.0 metres
Overall length - vehicle	11.0 metres
Working length vehicle and skip	16.5 metres
Height - travelling	4.3 metres
Height - working	5.5 metres
Kerb turning circle	21.4 metres
Swept circle	22.8 metres

Skip vehicle (two axle 18.00 tonnes GVW)

Dimensions (m)	
Width	2.5 metres
Overall length – vehicle	7.1 metres
Working length – vehicle and skip	11.0 metres
Height – travelling (with skip)	3.7 (min height required 4.5) metres
Height – working	4.45 (min height required 4.9) metres
Kerb turning circle	14.4 diameter in metres
Swept circle	17.0 diameter in metres
Axle weights –front	7.0 tonnes
Axle weights - rear	11.0 tonnes

Gully Tanker vehicle (two axle 18.00 tonnes GVW)

Dimensions (m)	
Width	2.5 m (mirror to mirror) metres
Overall length – vehicle	7.4 metres
Height – travelling	4.0 metres
Kerb turning circle	14.5 metres
Swept circle	17.1 metres
Axle weights –front	7.5 tonnes
Axle weights - rear	11.5 tonnes