



Better Practice Guideline

Resource Recovery from Multiple Dwelling Developments 2022



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Acknowledgements

WALGA would like to acknowledge in the development of these Guidelines.

WALGA acknowledges the Waste Authority for providing funding through the WasteSorted Grants Program – Infrastructure and Community Education, the contributions of Local Government, Waste Management Companies, Strata Management Companies and Real Estate Agents and initial work prepared by Talis Consultants in assisting with the update of these Guidelines.



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This project is supported by the Government of Western Australia
and administered by the Waste Authority

Definitions

Term	Description/Definition
Bin	Specialised container used to store general waste, commingled recyclables, food organics garden organics or other waste material.
Bin Store	A waste storage area used to store bins between collections. This may also be referred to as a bin room, compound or bin storage area.
Bulk Waste	Bulk waste includes old and broken furniture, white goods and large electronic items. Bulk waste can be a significant issue within developments with a high residential turnover where 'move in – move out' wastes require disposal.
Caretaker	Person(s) or party appointed by the managing agent to be responsible for the management of waste at the development. A caretaker may be a suitably qualified resident of the development or a third party.
Collection Point	The point where general waste, commingled recycling and food organics are emptied into collection vehicles.
Food Organic Garden Organic (FOGO)	Organic wastes including kitchen scraps and lawn clippings, small branches and garden debris.
General Waste	Also referred to as, rubbish, or landfill waste. General Waste is the remaining waste after other materials have been separated for recycling or recovery. General waste is collected in red or a dark green lidded bin. Hazardous and bulk wastes should not be included in the General Waste bin.
Hazardous waste	Household products that are corrosive, toxic, flammable or reactive if improperly used or disposed of. Can include batteries, fluorescent lamps, gas cylinders, chemicals, paint, cleaning products, medicines and flammable materials and liquids.
Multiple Dwelling Development	In this guide, the term is used to refer to residential developments of more than one dwelling. This ranges from dual occupancies and attached dwellings to high-rise residential unit buildings.
Mixed-Use Development	Development made up of both residential and commercial components
Onsite Collection	When the collection vehicle enters the property and services the development within the property boundary from a designated collection point.
Presentation point	Location/s in which bins are presented to the kerbside for collection.
Recycling	Material that is separated from general waste for the purpose of recycling. Materials includes paper, cardboard, glass, hard plastics, aluminium and steel containers.

WALGA	Western Australia Local Government Association.
WARR Strategy	Waste Avoidance and Resource Recovery Strategy 2030
Waste generation rate	These are the average general waste, recycling and FOGO generation volumes associated with MDDs.
Waste Management Plan (WMP)	Document that defines how waste will be managed for a proposed development. Requirements for Waste Management Plans may vary between Local Governments.

Abbreviation	Description/Definition
ABS	Australian Bureau of Statistics
CALD	Culturally and Linguistically Diverse
CCC	Consistent Communications Collective
CoP	City of Perth
CoV	City of Vincent
CoM	City of Melville
ESL	English as Second Language
FOGO	Food Organics Garden Organics
FO	Food Organics
LG	Local Government
MDD	Multiple Dwelling Development
MGB	Mobile Garbage Bin
SMRC	Southern Metropolitan Regional Council (Resource Recovery Group)
WA	Western Australia
WALGA	Western Australian Local Government Association

1.0 Introduction

The Western Australia Local Government Association (WALGA) first developed *Better Practice Guidelines Resource Recovery from Multiple Dwelling Developments (MDDs)* in 2016/17, with funding from the Waste Authority through the Waste Avoidance and Resource Recovery Account. In 2019 the Waste Avoidance and Resource Recovery Strategy 2030 (Waste Strategy) was released, which aims to guide the state in its transition towards a more sustainable, low-waste circular economy. The Waste Strategy sets a target to increase material recovery to 75% by 2030 and identifies organics, including food organics and garden organics as a focus material. As a result, these Better Practice Guidelines have been updated to incorporate improved recovery of organics from existing MDD's.

The term Better Practice, rather than Best Practice, has been used to recognise that these Guidelines and indeed the whole of waste management practice changes over time. There is no static Best Practice, rather there is ongoing improvement through developing better practice.

This Guideline has been developed to provide guidance on waste management options for existing Multiple Dwelling Developments (MDD's) and to encourage diversion of waste from landfill with a particular focus on organics. For the purpose of this document, the term 'multiple dwelling development' is applied to developments that reflect the R codes definition of multiple dwellings or more commonly referred to as apartments. Within such developments, space for bin storage is limited and standard Local Government collection services may not be readily applied.

MDD's are frequently identified as likely to have higher contamination rates for recycling services and more frequent instances of illegal dumping by those servicing and managing the properties. Organics (food organics or garden organics) represents approximately 43.5% of the general waste bin.¹

Research from other states in Australia indicates that:

"As a more affordable form of housing, MDDs tend to have a higher proportion of rental tenants and higher resident turnover than other types of dwellings. This is problematic from a waste education perspective as short-term tenancy makes it difficult to maintain high levels of waste literacy".²

The focus of this Guideline is to:

- Determine the most appropriate type and quantity of Food Organics (FO) or Food Organics Garden Organics (FOGO) infrastructure for MDD properties
- Develop a priority list of properties to implement FO/FOGO services to, based on ease of implementation
- Steps for developing a service implementation plan for the Local Government
- Identify resourcing requirements.

Section 2 provides background to these Guidelines, including why they were developed and current resources available to assist Local Government, strata companies and real estate agents. Section 3 of the Guidelines identifies the importance of engagement with all parties involved in the management of waste from Multiple Dwelling Developments. Sections 4, 5 and 6 respectively outlines organics planning, an overview of the suitability of MDDs to organic

¹ Southern Metropolitan Regional Council 2020, EMRC Waste Audit
<https://www.emrc.org.au/documents/819/emrc-waste-audit-presentation>

²Fairfield City Council (2015) Case Study: Fairfield MUD recycling program Available online
https://wsroc.com.au/images/Waste/Case_Study_-_Fairfield_MUDs_education_web.pdf

collection and the resourcing and planning required to deliver an organics service to MDD's. Section 7 is education, engagement and identification of better practice approaches while section 8 outlines organics rollout considerations. Section 10 discusses MDD case studies where organic collection services have been trialled.

2.0 Background

2.1 Why was this Guideline developed?

Waste management systems in MDDs may incorporate any or all of the following:

- services to manage general wastes, i.e. the wastes not collected by a dedicated recyclables or organics collection service
- commingled recycling services to manage dry recyclable materials such as paper, cardboard, glass bottles and jars, steel cans and plastic containers.
- organics services to manage garden and food organics, which may include a bin-based collection system or on-site composting
- bulky waste services to manage bulky household items, such as furniture or whitegoods. Note: materials collected in bulky waste services differ across local government areas

Better practice waste management therefore establishes the design and provision and maintenance of services and infrastructure that enable waste, commingled recycling, organics and bulky waste services to be made in the best possible way to improve resource recovery. It requires continuously searching for ways to improve infrastructure, systems and services as knowledge and experience accumulates over time.

Better practice management systems are effective and safe. Residents can use them with ease and collection crews can easily access and service them. The design, installation and ongoing management of better practice systems encourage residents to use the services appropriately. This includes greater participation in the services provided, minimised waste generation, increased resource recovery and reduced contamination of recyclables and organics.

The Better Practice FOGO step by step guide³ outlines requirements for single dwellings and households with a separate waste service, however it does not address waste service considerations for MDD's. MDD's may have a range of waste service challenges particularly:

- No individual household ownership over bins, resulting in higher contamination rates/misuse of bins
- Limited of space for suitable bin infrastructure
- Less convenient access to the bin storage area therefore less motivation to participate and lower recovery rates
- Higher resident turnover, necessitating additional infrastructure provision (e.g., kitchen caddies and caddy liners) and ongoing
- Difficult to manage/monitor services and
- Repeated provision of education

A 'one-size' fits all approach is not suitable for MDDs. Depending on the size and type of property, a FO service may be more appropriate than a FOGO service. Additionally, bin ratios are different depending on the size of the apartments and greenspace available. Therefore,

³ [Better practice FOGO services A step-by-step guide.pdf \(wasteauthority.wa.gov.au\)](https://www.wasteauthority.wa.gov.au/better-practice-fogo-services-a-step-by-step-guide.pdf)

implementing a FOGO system into existing MDDs requires a tailored approach to ensure high levels of resource recovery and to minimal contamination and instances of illegal dumping.

To effectively implement a new waste service requires a significant behaviour change process and having the right infrastructure in place. Without this there could be a negative perception from residents that would undermine the effectiveness of the service. Rectifying any issues with implementation, then becomes a resource intensive activity for the Local Government implementing the service. The method outlined in this Guideline focuses on sufficiently resourcing the planning and implementation stage, with the aim of ensuring the most appropriate system is put in place. This will reduce ongoing requirements for maintenance and management post system implementation.

2.2 What resources are available?

Waste Management Plan Guidelines for New Multi Dwelling Developments (available from the WasteNet website) provide guidance on how to incorporate best practice principles into different aspects of the waste management planning process. Details are provided on calculating predicted waste volumes, how to manage specific waste streams, as well as the selection and design of waste infrastructure to ensure that it is safe, practical and works towards maximising the diversion of recyclables and organics. The Guidelines also contain checklists and pro-forma for the preparation of waste management plans by developers.

Resources for Strata Companies and Real Estate Agents

Waste management systems may vary between Local Governments, with two and three bin systems in place. One resource which can assist is the [Recycle Right website](#) and [App](#) – these resources provide information on the requirements for each bin system (and information for individual Local Governments).

The State Government [WasteSorted](#) resources are also useful for communication. To contact individual Local Governments, WALGA has an online [Local Government Directory](#) which includes information for all WA Local Governments.

Charity collections are also an option for bulk reusable goods, as it encourages residents to donate to charity drop off sites such as:

- Good Sammy
- Vinnies
- Red Cross
- Salvos
- Anglicare
- Save the Children
- People who Care (Starting over Support)

Other options include Facebook Groups such as 'Buy Nothing pages', Marketplace and Gumtree.

Resources for Local Government

The DWER [Better Practice Vergeside Collection Guidelines](#)⁴ includes a range of service delivery options.

The [Bin Tagging Program](#) is an evidenced based approach shown to reduce contamination and increase resource recovery. However, may only be effective in some MDDs.

⁴ [Guidelines for local government vergeside and drop-off services | Waste Authority WA](#)

Planning for Waste Management

[Model Local Planning Policy and Explanatory Notes](#), the Model Policy and Explanatory Notes have been developed by WALGA and reviewed by external consultants. The purpose of the Model Policy is to inform external parties of Local Government's expectation that waste avoidance and resource recovery considerations will be addressed in the construction, demolition and on-going operation of future developments. The Explanatory Notes have been developed so that they can be used by Planning Officers to gain an understanding of the background to this issue, as well as forming the basis of a Report to Council requesting endorsement of the Policy.

[Planning Conditions](#), WALGA has undertaken an extensive review of the waste management planning conditions attached to various development approvals by Local Governments as well as through Development Assessment Panels and used these as a basis to draft model conditions. WALGA has received legal advice on the wording of the model conditions to ensure they can pass the four tests of validity and achieve the desired waste management planning outcomes.

A [Waste Local Law Template](#) and explanatory note is available for Local Government use and includes enforcement options.

[MDD and Mixed Use Development Waste Calculator](#)

Appendix 1 lists the waste and recycling generation rates per dwelling size/type and commercial unit type. The total number of dwellings and anticipated floor areas of proposed commercial uses will assist with estimating the number of MGBs required for MDD and mixed-use developments. The online waste generation calculator aims to assist architects, building designers, building managers and waste management personnel to incorporate effective waste and recycling systems in to MDDs and mixed-use developments.

3.0 The Importance of Engagement

In the Waste Management Plan Guidelines for New Multi Dwelling Developments the importance of engagement, by developers, with the Local Government was highlighted. This is vital at the development stage, as early consultation with Local Government enables developers to obtain a better understanding of local waste planning requirements, service delivery options and what is expected as part of new developments.

In relation to management of waste from MDD's, ongoing engagement between Local Government, waste management companies, Strata Companies and Real Estate Agents is vital to ensure systems put in place continue to function effectively and to identify and address any issues when they arise. All organisations have limited resources, so it is important that effective engagement is undertaken, and the process is made straight forward for all parties.

4.0 Organics MDD Planning

To ensure that the approach taken considers all the factors relating to MDDs it is recommended that the Local Government develop a database of all MDDs in the area. The database needs to identify a range of factors, including the service type and demographics.

Information required	Details
Service type	Whether there are shared services or separate services (separate services should go ahead with standard rollout with option for a smaller FOGO bin if available – on the basis of smaller yards & lower occupancy/household)
Demographics	<p>From the rates database determine portion of renters compared to permanent residents, any Culturally and Linguistically Diverse (CALD) residents</p> <p>based on the address to send the rates notice to or alternatively check Australian Bureau of Statistics: Quick Stats⁵</p>
Contamination issues	Identify if there is a history of waste management issues/contamination at the properties based on a database search or information from the recycling contractor.
Contact	Identify a contact person for each MDD (strata manager or body corporate contact) – from rates database, site visit or waste enquiries. A consistent contact person is key when arranging site visits to ensure someone is on site to access the building.
Details of site	<ul style="list-style-type: none"> • How many bin stores there are & where they are located (fully accessible, locked bin room or in a locked car park) • Whether residents or a property manager place the bins out for servicing • Whether there is an appropriate wall or cage next to the bins to place weather-proof signage on • Whether there are separate waste storage rooms on each floor or residents take waste directly to the bins. • Is there sufficient verge space to present the bins for service. • Any historical waste or other significant issues related to the property (note this could be determined by a database search within Local Government) • Existing recycling education initiatives in the property – e.g., council/contractor provided signs, resident provided signs/bin stickers/council mail outs/bin tagging.

⁵ [2016 Census QuickStats: Greater Perth \(abs.gov.au\)](https://abs.gov.au)

Type of Service	<ul style="list-style-type: none"> • Decide whether a FO service only will be offered, if yes how far will bins be wheeled and should it be a 140L bin limit for FO only services • Consider frequency of collection for bins • Consider if commingled recycling bins can be upgraded from 240L to 360L • Consider if a GOFA/walk in service may be suitable for the building • Waste generation rates as listed in Appendix 1
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5.0 Organics in MDD's

Assessing Suitability of MDD's

Aim

Prior to introducing an organic waste collection system to MDD's, it is recommended that Local Governments assess the suitability of each MDD for an organics service.

Issues common to MDDs in relation to waste management, and in particular in relation to organic waste segregation, include a segregated organic waste collections not being offered to residents, management companies and/or property agents who do not respond positively to residents' requests for segregated collections, housekeeping issues at communal bin areas including odour, hygiene and untidiness. Other barriers include small kitchens with little space for additional bins or caddies, a higher level of resident turnover, negative perceptions of food waste segregation ('the yuckiness' factor, possible odour, pests, etc) and residents believing they do not waste enough food to segregate.

Some Local Governments have a significant number of MDDs while others have a smaller number. Examples are presented

Appendix 2 .

Approach

The main criteria that should be considered and reviewed by Local Governments prior to implementing an organics collection at MDD's are:

- Profile of the MDD
- Current waste management arrangements to determine baseline
- Waste storage Area
- Building Design
- Stakeholder Engagement
- Staffing resources

A more detailed explanation of these criteria together with the most and least suitable conditions for implementing an organic waste collection scheme are listed in **Appendix 3**. If an MDD is not suitable, alternative arrangements should be considered and the reasons for not implementing the system documented. This quality procedure will facilitate an assessment review at a later stage and inform the future design and layout of MDD to ensure that they are functional and fit for purpose.

Additional considerations specific to MDD's which may become apparent during site visits, may also need to be assessed. Obtaining accurate data on MDD's will facilitate and improve the suitability assessment. Based on the information/data gathered and assessed it should be determined whether an organic collection scheme is/is not a priority for the MDD. A site visit checklist

Another option is MDDs could also be potentially risk assessed as per **Table 1**.

Table 1: Property ranking system for MDD's

Risk Rating	Considerations/criteria	Timeframe for implementation
Minimal	MDDs with separate services	Rollout at the same time as the rest of the community with same bin configuration or consider a 140L FOGO bin
Low	Engaged contact person/property manager Minimal history of recent (24 months) recycling contamination/ bin presentation/ illegal dumping offences Sufficient room in the bin storage room and no anticipated service considerations	3-6 months after main council rollout
Medium	Contact person that is stable Minimal history of recent (12 months) recycling contamination/ bin presentation/ illegal dumping offences Challenging but manageable bin capacity / servicing considerations	6-12 months after main council rollout
High > 40 units	Contact person not regular/ easy to contact History of waste servicing issues Bin capacity/bin servicing challenges	12-24 months after main council rollout, with resources available for close monitoring

Rationale

Management/strata companies

Management companies have an obligation to provide the best possible facilities to source-separate waste as much as possible. The participation and co-operation of this stakeholder is essential for its success. Continuous and ongoing assessment of the progress of the scheme, as well as maintaining communication with residents and the waste collector is recommended.

Residents

Residents have a responsibility to make themselves aware of the waste facilities provided and active residents' committees should engage with property management and waste collectors and make them aware of any possible problems that may be occurring or suggest ways to improve the current waste management situation.

6.0 Resourcing

Aim

Ensure sufficient resourcing for implementation, engagement and ongoing community behaviour change.

Approach

Table 2 outlines the resourcing potentially required. Note that any investment in this process will also improve commingled recycling recovery and contamination management.

Table 2: Recommended resourcing for MDD FOGO planning and implementation

Stage	<20 Properties	20 - 50 Properties	50 - 100 Properties	100 - 200 properties	200+ properties
Planning (e.g., tasks outlined in number 6)	In-house 2 week	4 weeks full time + 2 weeks site visits	5 weeks full time + 4 weeks site visits	6 weeks full time + 5 weeks site visits	9 weeks full time + 6 weeks site visits
Rollout	2 day/ week for 6 months	4 days/ week for 9 months	6 days/week for 18 months	6 days/week for 18 months	Full time permanent

Note: Allow 1-2 hours including travel time per site visit

Rationale

The service implementation method proposed requires sufficient resourcing during the planning and rollout phase. To identify the characteristics of the MDDs it may require a phone call, electronic survey and/or site visit to each property. Many properties are likely to need follow up visits. A site visit could potentially be 1-2 hours in duration including travel time. A development may have multiple building/towers on site, and each may require a different set of keys/access fobs.

7.0 Education and Engagement

Behavioural change around waste behaviour is a complex area with a wide range of values, motivations and circumstances impacting an individual's decisions in this regard. Most work in the area of household waste related behaviours suggest that using a collection of interventions including informational materials and practical tools work better than singular interventions.

The most useful of these for communications include the following:

- clear and simple consumer-friendly language
- the integration of segregation advice with information on preventing food waste
- the use of multilingual communications
- prioritising consultation with a range of stakeholders including residents
- frequent, consistent communication
- provision for feedback
- a system for dealing with enquiries in the early stages of an intervention program.

Useful recommendations on practical matters includes the provision of kitchen caddies and compostable liners to all households, clear signage, weekly food waste collections and attention to good housekeeping in the communal bin areas. **Table 3** summarises the barriers, enablers and issues with food waste segregation and collection in MDD's.

Table 3: Barriers, enablers and issues with food organics

Barriers
<ul style="list-style-type: none"> • Distribution of information to letterboxes if letterbox is full of junk mail. An alternative is to deliver straight to each door unit and/or display posters around building • Lack of education and awareness • Unclear signage/direction • Restricted space for segregation bins (small kitchen areas) • Inadequate supervision/no cameras at common bin areas • As management fees include waste collection, there is little scope for fiscal incentives • With food waste bins, worries about odour & mess • Issues with transferring waste from upper floor apartments if there is no elevator • Odour from bin chutes or enclosed bin store areas • Language barriers • Management company lacking interest • Bins blocking exits or entrances • Badly designed outside bin areas
Enablers
<ul style="list-style-type: none"> • Collaboration and buy-in from all stakeholders • Clear signage and communication (generic literature works well for replication) • Culturally and linguistically diverse communications (CALD) • Compostable liners and caddies supplied • Caddy area in basement for residents to leave caddy and collect at a later stage (in developments where there is no elevator residents may chose to carry caddy to the bin store area and carry on with their daily duties and collect caddy on return) • Larger number of recycling bins than general waste • On-site manager/caretaker • One organisation driving the initiative (Management Company/residents group)
Other General Issues
<ul style="list-style-type: none"> • Bulky Cardboard is an issue in common bin areas • Contamination in common bin areas (continued) • Confusion about plastics

7.1 Determine Engagement Approach

Aim

Identify the suite of approaches needed for engagement.

Approach

The approach to engagement is focused primarily on reducing contamination and increasing resource recovery from the kerbside system but can also include information and assist in motivation about waste reduction and reuse options and other services available.

Information options:

- Stickers on lid of bin
- Signage in the bin area
- Leaflets to residents
- Letters to residents
- Webinar Session for Strata Managers, Property Managers & Interested Council of Owners.

Information from Local governments was that often information went to the owner of the property rather than the occupier. For this reason, it is suggested that any correspondence be addressed to the occupier. Information should be provided to the Strata Company and local Real Estate Agents.

Engagement options:

- Onsite bin inspections
- Bin Tagging
- Door knocking
- Displays in building foyer*
- Meeting with community groups*
- Presenting at schools*.

*May not be relevant for all MDDs.

Table 4 provides some suggested approaches that can be used depending on the levels of contamination present in kerbside bins at the MDD (identified in Section 5 and Appendix 2).

Table 4: Options for intervention based on level of contamination

	Low	Medium	High
Information			
Stickers on lid of bin		x	x
Signage in the bin area	x	x	x
Leaflets to residents		x	x
Letters to residents	x	x	x
Engagement			
Onsite bin inspections	x	x	x
Door knocking			x
Displays in building foyer		x	x
Meeting with community groups*	This maybe an option for some MDDs, to be considered along with other approaches.		
Presenting at schools*			

Rationale

The approach suggested is to put the most effort into the MDD's with the highest contamination levels to optimise the use of resources and have the biggest impact. The approaches used can be sequenced, for example, door knocking followed by bin tagging.

These options are suggestions only and the information and engagement approaches used will be impacted by the resources available to the Local Government.

In looking at the effectiveness of the different information and engagement options, the research suggests:

- **Bin Stickers:** Stickers on bin lids were identified by one of the case studies as a low-cost way of having some impact on behaviour. There are potentially useful as part of other information provision and engagement options to reinforce other approaches. The limitations to bin stickers are:
 - Bin Stickers are at point of disposal, when often source separation occurs at point of generation.
 - If collection systems change this impacts on the effectiveness of the bin stickers, which then have to be removed.
 - Research undertaken in South Australia also indicates that after the first one or two views, people take less notice of the bin stickers and even miss-remember what is on them.
- **Signage in bin areas:** This was used frequently in the case studies as a complementary measure to other interventions, it has the advantage of being relatively cheap to install and can be modified when required.
- **Leaflet to resident:** This type of education material alone is unlikely to be effective but combined with others it can assist.
- **Letter to resident:** Direct correspondence to residents often receives more attention than leaflets, so can be more effective in engaging residents and providing information about the use of different services.
- **Onsite bin inspections:** the research suggests that even having people on site looking in the bins improves behaviour.
- **Bin Tagging:** This a highly effective way of changing behaviour however it is resource intensive. The higher the initial contamination, the greater the improvement that would be expected over the course of the Bin Tagging program implementation. For low levels of contamination, only small improvements are noted. Bin Tagging is most effective where residents have an individual ownership of their bins.
- **Door knocking:** This can be a highly effective approach to engagement but needs to be carefully planned to ensure residents are at home.
- **Displays in foyer:** Depending on layout of MDD, this can be an effective way to engage with residents.
- **Meeting with Community Groups / Engagement with Schools:** These options could be complementary measures to improve education and engagement in the area, particularly if the Local Government is working with a large number of MDDs.

7.2 Determine Kerbside Infrastructure

Aim

Identify infrastructure needed to facilitate increase resource recovery and source separation.

Approach

External infrastructure needs have been identified in **Appendix 4**, the other element of improving kerbside source separation is to provide infrastructure for inside the MDDs – for example reusable bags for recycling and caddys with liners for collecting food waste.

Rationale

It is important to ensure that the infrastructure is in place, both the general bins and within the MDDs, to make it easy for residents to source separate their waste.

In 2018 WALGA worked with the City of Perth and the City of Vincent to test specific engagement and infrastructure solutions for a range of MDD's. In the Cities of Perth and Vincent this will include introducing a food waste collection service, as well as seeking to improve waste and recycling separation options. Residents were provided with reusable bags for their recycling and kitchen caddys for food waste. Detailed analysis is provided in Section 10.

7.3 Determine Vergeside Infrastructure

Aim

Identify the frequency and approach to vergeside collection needed for the MDD.

Approach

It is suggested an on-demand approach verge collection approach be used for Strata premises. This would mean that residents would be directed to the Strata company to organise on demand collection of materials, or the Strata would organise (and advertise) collections periodically over the course of the year. The Waste Authority⁶ recently released Better Practice Guidelines for Local Government vergeside and drop-off services.

Rationale

If a pre booked Verge Valet™ service is used by the Local Government, feedback from workshops in 2018 indicated that Strata Companies would prefer to be organising these collections, rather than individual residents requesting the services. Research shows that MDD's have a higher turnover of residents, consequently, may be generating bulky waste more frequently than in other residential areas. By ensuring on demand collections, the potential for illegal dumping can be reduced as residents will have a convenient option to dispose of bulky goods. The Western Metropolitan Regional Council (WMRC) offers a Verge Valet™ Service to its Member Councils – strata companies that have more than 25 units per development can book one service per month (with the exception of the Town of Cambridge where the number of units is 15).

7.4 Evaluation

Aim

Evaluate the success of the interventions.

Approach

Following the interventions it is suggested that bin inspections be undertaken to determine levels of contamination present compared to the initial results.

Rationale

Bin inspections are suggested as the primary means of assessing the success of the intervention because they show directly what changes there have been to behaviour. Surveys of residents may show changes in attitude/knowledge, but that does not necessarily correlate with changes to behaviour.

7.5 Monitoring

Aim

Monitor the ongoing effectiveness of the waste management intervention.

Approach

Monitoring approaches could include:

- Strata Companies providing feedback on any issues with illegal dumping and feedback from residents
- Waste Collection companies identifying if contamination of kerbside bins has improved

⁶ [Vergeside and Dropoff Guidelines.pdf \(wasteauthority.wa.gov.au\)](https://www.wasteauthority.wa.gov.au/Vergeside_and_Dropoff_Guidelines.pdf)

- Bin inspections 6 and 12 months after the intervention
- Uptake and use of vergeside collection systems.

Rationale

To ensure the long-term success of the intervention, it is necessary to monitor a range of variables. Monitoring will indicate if additional interventions are required.

8.0 Roll Out Considerations

Determine exact number of properties in the rollout stage including:

- Education materials – type and number and how they will be distributed
- Number of bins/kitchen caddies/liners
- Location for materials to be delivered to
- Method of consultation with property
- Who will be responsible for managing contamination and presenting bins for collection?

Refer to Section 9.5 of the Waste Authority Better Practice FOGO Service⁷A Step-by-Step Guide for a more details of Roll-out of a new service.

⁷ [Better practice FOGO services A step by step guide.pdf \(wasteauthority.wa.gov.au\)](https://www.wasteauthority.wa.gov.au/better-practice-FOGO-services-a-step-by-step-guide.pdf)

Appendix 1: Waste generation rates

The following instructions apply when using the online Waste Calculator to calculate waste generation rates for mixed use developments. Data has been provided on a 'per week' basis as similar premises may operate five or seven days per week. This data is predominately to be used for calculating waste, organics and recycling generation rates as part of the planning process. For premises that have multiple types of facilities (residential facility with café, gym, bar or office building with café, childcare) all such facilities must be calculated separately then volumes combined when looking at the bins required, storage size and collection frequencies. The volume calculations do not take into consideration other systems such as compactors/balers for cardboard and plastic.

Dwelling Size/Use Type	Guidelines Used	General Waste	OR	General Waste	&	FOGO	Commingled Recyclables	Metric
Residential <12 Dwellings								
1 Bedroom	8	70		30		40	40	L/week
2 Bedrooms		130		50		80	60	L/week
3+ Bedrooms		210		70		140	120	L/week
Residential >12 Dwellings								
1 Bedroom	11	60		40		20	20	L/week
2 Bedrooms		100		60		40	40	L/week
3+ Bedrooms		140		80		60	90	L/week
Food and Beverage								
Butcher / Seafood (shop front)	9 10 11 12 with FOGO adjustment	1400		840		560	1680	L/100m ² / week
Butcher / Seafood (wholesaler/ processing)		2730		1050		1680	2520	L/100m ² / week
Delicatessen	12 13 15 with FOGO adjustment	700		350		350	350	L/100m ² / week
Fruit & vegetable Shop (Greengrocer)	15 with FOGO adjustment	3570		1050		2520	2520	L/100m ² / week

⁸ Talis knowledge and industry experience

⁹ [City of South Perth: Guidelines for Waste Management Plans 2021](#)

¹⁰ [City of Melbourne: Guidelines for Waste Management Plans 2021](#)

¹¹ [City of Gosnells Information Sheet Waste Collection](#)

¹² [Zero Waste SA: Better Practice Guide Waste Management 2014](#)

Dwelling Size/Use Type	Guidelines Used	General Waste	OR	General Waste	&	FOGO	Commingled Recyclables	Metric
Restaurant	12 13 14 13 14 15 19 20 with FOGO adjustment	4340		3500		840	2100	L/100m ² /week
Supermarket	12 13 15 14 19 20 with FOGO adjustment	4900		3500		1400	1680	L/100m ² /week
Café	12 13 14 15 20 with FOGO adjustment	2940		2100		840	1400	L/100m ² /week
Fast Food Outlet (Chain Store)	12 13 14 with FOGO adjustment	3360		2520		840	2520	L/100m ² /week
Takeaway shop	12 13 14 with FOGO adjustment	945		700		245	1050	L/100m ² /week
Convenience Store	13 with FOGO adjustment	1960		1680		280	1680	L/100m ² /week
Tavern/Small Bar	18 with FOGO adjustment	3220		2800		420	2100	L/100m ² /week
Hotel or Motel (Bar Areas Only)	15	350		350		0	350	L/100m ² /week
Hotel or Motel (Bar & Dining)	16 17 with FOGO adjustment	2940		2100		840	1400	L/100m ² /week
Licensed Entertainment/Community Club (Bar Area only)	15 with FOGO adjustment	350		350		0	560	L/100m ² /week
Licensed Entertainment/Community Club (Bar & Dining)		2940		2100		840	1400	L/100m ² /week
Retail								

¹³ [Local Planning Policies: Waste Management](#)

¹⁴ [City of Sydney: Guidelines for waste management in new developments](#)

¹⁵ [City of Melville: Waste and Recyclables Collection for Multiple Dwellings, Mixed Use Developments and Non-Residential Developments](#)

¹⁶ WALGA

¹⁷ [City of Perth: Waste Guidelines for Developments 2019](#)

Dwelling Size/Use Type	Guidelines Used	General Waste	OR	General Waste	&	FOGO	Commingled Recyclables	Metric
Retail shop <100m ² floor area	16 17 18 19	350		350		0	175	L/100m ² /week
Retail shop >100m ² floor area	12 13 16 17 18 19 20	350		350		0	350	L/100m ² /week
Showrooms	12 13 14 16 17 18 19 20 with FOGO adjustment	380		140		140	140	L/100m ² /week
Hairdresser/ Salons	¹⁵ with FOGO adjustment	315		245		70	210	L/100m ² /week
Other Commercial								
Serviced Apt. Backpacker or Boarding House	¹⁵	40		30		10	20	L/Bedroom/week
Offices/ Medical/ Consulting	13 14 16 17 18 19 20 with FOGO adjustment	770		735		35	105	L/100m ² /week
Hotel/Motel accommodation only	12 13 14 15 16 17 18 19 20 with FOGO adjustment	40		30		10	20	L/Bedroom/week
Licensed club	¹¹ but based on 12 13 16 17 19 20	350		350		0	560	L/100m ² /week
Education/ Training	12 13 14	35		35		0	35	L/100m ² /week
Childcare	12 13 14 20 with FOGO adjustment	360		240		120	240	L/100m ² /week
Function Room	²⁰ with FOGO adjustment	1960		1400		560	1400	L/100m ² /week
Gym	¹³	70		70		0	70	L/100m ² /week
Retirement Village	¹³ with FOGO adjustment	80		60		20	60	L/apartment/week

Dwelling Size/Use Type	Guidelines Used	General Waste	OR	General Waste	&	FOGO	Commingled Recyclables	Metric
Independent living	¹³ with FOGO adjustment	110		80		30	80	L/apartment/week
Community/ Sports Centre/place of Worship/ Recreation	¹⁴	350		350		0	350	L/100m ² /week

Appendix 2: Example of MDDs per Local Government

Local Government	% High Density	No. of units	Assumed average property size (units)	No of properties (Est)
City of Stirling	8.9	7,208	25	300+
Town of Cottesloe	18.4	3258	20	150+
City of Perth	82.8	12,206	60	200+
City of Vincent	21.5	3,613	30	130+
City of South Perth	10.8	2,701	20	130+
Town of Victoria Park	14.5	2,451	30	80+
City of Cockburn	4.9	2,115	20	100+
City of Subiaco	25.6	2,160	30	80+
City of Belmont	9.2	1,692	30	50+
City Fremantle	11.3	1,643	30	50+
City of Joondalup	1.6	955	30	30+
City of East Fremantle	14.3	469	20	25+

Appendix 3: Most and least suitable conditions for an organics collection service

	Most suitable	Least suitable	Rationale
Profile of the MDD			
Size of the MDD development, i.e., number of apartment units	Less than 12 units ¹⁸ (low density)	Greater than 12 units ¹⁹ (medium-high density)	This approach allows the predominant demographic and language groups to be identified whilst also identifying factors such as tenure (owned or rented) which can inform the frequency of engagement
Number of residents and tenants	Active residents' committee with good awareness of waste management	Residents unaware of current waste management procedures	
Social and demographic profile of residents and tenants	Adequate space and options of locations for a waste storage area or, if a new development, sufficient consideration given to planning waste storage facilities	Non-existent or inactive residents' committee	
Communal space available, e.g., car-parking spaces, green areas, etc.		Old buildings where there may be difficulty retrofitting adequate waste storage facilities	
Current waste management arrangements to determine baseline			
Is there source separation of waste on site at present?	Good system of waste separation already in place, easy for residents to use and understand, colour-coded bins	Unsegregated waste management system in place	This approach allows an assessment of the current MDD service including whether additional bins are required, or the number of bins reduced
How many bins (waste/recycling/other) are available for use?		Uncooperative waste collector and property management company	
How frequent is the current collection service?	Waste collectors have experience of collecting organic waste or have looked at the possible issues associated with the introduction of such systems	High contamination levels	Whether the collection frequency is adequate or additional services are required
How is the service being used – presentation rate for bins, how full the bins are (percentage), contamination type and level for all bins presented.		High illegal dumping	
LG or private collection service			
Waste Storage Area			
What are the current arrangements for the storage of waste on site?	Organic bin/liner type, typically a 7L bin with compostable liner	Inaccessible Inadequate space	This approach assesses the suitability of the waste storage area

¹⁸ 12 units was considered to be a reasonable cut-off where typically 1-12 units would be low density, 1 to 3 story high development and likely to have more space for a bit of a garden and more storage (generating more garden organics in FOGO bin and packaging in recyclables bin).

¹⁹ 12+ units are considered to be more medium to high density, where FOGO is predominantly food waste and there is typically less packaging in the recyclables bins due to typically less floor area for storage of goods, which is why the generation rates are lower for FOGO and recycling.

	Most suitable	Least suitable	Rationale
How is the waste storage area currently accessed?	Waste storage areas should be adequately ventilated	Unscreened or unfenced	
Can the current waste storage area accommodate extra bins?	Access for residents and waste collectors should also be considered	Insufficient bins	
Are there health and safety issues with the current arrangements or if organic bins are introduced?		Insufficient collection frequency	
		Communal bins are the most appropriate option for MDDs >12 ²⁰	
Building Design			
Does the building design facilitate the introduction of a separate collection of organic waste?	Ground level collection is preferred which should be adequately fenced or screened off to reduce visual impact	Inappropriate and inadequate waste facilities	This approach allows an informed decision if the building is suitable for an organics collection service
Are there access constraints at the complex for residents or waste collection vehicles?	Bin storage areas should be located close to the residential thoroughfare of the complex to encourage maximum participation	Restricted vehicle and resident access	
Is there space within the footprint of the MDD complex for an alternative waste collection area?	If security is a concern, residents could be given a key to access the bin storage room or alternatively for the bins		
Is the waste storage area accessible to the general public?			
Can bins be easily moved to a convenient location on collection day?	The waste storage area should have a water supply and adequate drainage for water run-off and spillages		
Stakeholder engagement			
Is there a Management Company in place on site?	The initial and ongoing education, awareness, and promotion to the residents/tenants is essential. This is key to achieving high participation in the service amongst residents and to control contamination.	Little engagement between stakeholders. Inadequate awareness, promotion and education of the service	This approach allows active engagement between the Local Government and the management /strata company
Is there a full-time caretaker on site who looks after the waste bins?			
Is there an active residents' committee (if one exists)?			
Who is the waste collector, and does it have any concerns with providing an improved collection service?	Multilingual communication may also be necessary through the use of simple signage in a number of languages and using visual symbols/logos	Insufficient support for residents' queries or suggestions	If there is a management/strata company at the MDD it facilities contact with the council of owners/residents to inform them of any changes and to also answer any questions posed by residents.
Are there any existing waste issues on site?			

²⁰ Typically for 10 units or more a communal bin store is more common

	Most suitable	Least suitable	Rationale
between the management company and the residents to date?			It also establishes the organisation that the Local Government needs to work with and highlights any current issues at the MDD

Appendix 4: MDD Site Check List (Courtesy of City of Vincent)

MULTI UNIT DWELLING SITE VISIT CHECKLIST					
Date of visit:				Name:	
Property Address:			Number of units:		
Property Contact person:					
Mixed Use?	YES / NO	if YES:	Comm'l Unit number range:	Residential Unit Number range:	
Bin Room on site:	YES / NO	If YES, Location of bin room:			
		If NO, Bin store location/s:			
Shared or Individual Bins	SHARED	INDIVIDUAL	If INDIVIDUAL, potential for communal bin storage/use?		
Access:	Open complex:				
	Gate / door code:				
	Key / FOB collect from:				
<u>Bin Room 1 Measurements:</u>		<u>Bin Room 2 Measurements:</u>		<u>Best KITCHEN CADDY drop off location:</u>	
				B - cable tie to bin	O - other
				L - letter box	
				G - gate	
				F - foyer	
Are bins presented on verge:		YES / NO	If NO, where:		
<u>Verge Measurement and street location:</u>		<u>Best location for Verge Valet:</u>			
		V - verge			
		PB - parking bay			
		O - other			
<u>Damaged Bins / Lids:</u>		<u>Existing Waste Education & Location</u>		<u>Potential best location for Waste Ed Materials</u>	
		N/A - none		L - stickers on bin lids	
		L - stickers on bin lids		S - signage	
		S - signage		C - communal area	
		O - other		O - other	
BINS FOUND ON SITE:					
<u>MGB 240L</u>	<u>MGB 140L</u>	<u>MRB 240L</u>	<u>MRB 360L</u>	<u>FOGO 240L</u>	<u>FOGO 140L</u>
Frequency of Collection:	MGB:		MRB:		FOGO:
Additional Comments by auditor:					
ADMIN USE ONLY:					
Data has been:	Reviewed:	Entered:	Added to MUD property register folder:		

Appendix 5: Additional Resources

City of Vincent have developed a range of resources for MDDs FOGO rollout such as:

Strata Session

This was a live webinar held for Strata Managers, Property Managers and interested Council of Owners to inform them of the rollout process for FOGO in MDDs >10 units. It was held several weeks before the first rollout to MDDs. After the webinar a link of the recorded webinar was emailed to all Strata Managers with the webinar slides and answers to questions that came up in the session. The recording has also been sent to new Strata Managers who have taken over managing buildings in the City to assist them to get up to speed with the rollout process and new 3 bin FOGO system. https://youtu.be/NKMfxxpQ_80

Rollout information posters for Strata/MDDS

These were distributed in an email to Strata Managers at least two weeks in advance of their scheduled rollout date to put up in the complex and / or distribute to residents via email or their nominated communication channel with residents.

FOGO is coming poster

Raises awareness that waste system is changing, date of rollout for the building, what they can expect to receive, where it will be delivered to.

FOGO Bin changeover information poster

Gives Strata / Building Manager / Cleaners full information of waste collection days and frequency & how kitchen caddies will be delivered to residents.

If delivery to door of each unit was not practical for that building, Strata Managers had the option pick up caddies from our Depot or have them delivered to a central place at the property for building manager to distribute on site.



CITY OF VINCENT



FOGO is coming!

Your apartment complex will soon transition to the 3 Bin Food Organics, Garden Organics (FOGO) system.

Each apartment will receive a New FOGO kitchen caddy, roll of compostable caddy liners, Waste & Recycling Guide 2021/22 and Waste sorting fridge magnets.

Property address:

Your delivery date:

Your NEW Kitchen caddy pack will be

- delivered to your door
- available to collect from
- made available by Strata. Contact



Scan the QR code to download the How to Sort Your Waste Guide.



Find out more at vincent.wa.gov.au/FOGO



FOGO Bin Changeover Information

Property Address

Bin Changeover Date

How the Changeover will work:

The changeover will take place on the usual collection day of the complex, so on the scheduled changeover day, if bins are presented by a caretaker/cleaner, please put bins out by 6am, even if they are empty, and leave bins out until the changeover is complete.

Your new waste collection bin day:

	MON	TUE	WED	THU	FRI
FOGO	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Recycling	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Your new waste collection frequency:

	2x per week	Weekly	Fortnightly	Next collection date:
FOGO	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 4th
General Waste	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	April 29th
Recycling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	May 4th

Kitchen Caddy Delivery

Picked up from City of Vincent Works Depot	<input type="checkbox"/>	To be arranged by (date):	<input type="text"/>
Delivered to property	<input checked="" type="checkbox"/>	Location:	<input type="text" value="Unit doors"/>

'How to sort your waste' Signage

The City offered this to MDDs to display in their bin storage areas. The sign was designed using icons from the Waste Sorted tool kit. The sign is lightweight Aluminium Composite Material (ACM) with predrilled holes. It is weatherproof and has UV and graffiti protective coatings. It is A1 sized (594 mm x 841 mm). The signs can be affixed to a wall or to 2 posts if free-standing. We suggested the sign be placed in either a high foot-traffic area of the complex or in a well-lit, prominent position in the bin storage area. The City amended the English sign to add a QR code which links directly to the City's webpage where all 12 languages are available to download / print, along with further information on how to sort waste and a link to the Recycle Right website & app download. The City encouraged Strata Managers to pass this on to residents and print out / email around any languages they thought may be utilised at their specific properties. Once a request was received, signs were made available for pick up at the City's Library Customer Service desk.

<https://www.vincent.wa.gov.au/how-to-sort-your-waste-correctly.aspx>



How to sort your waste

Scan here to find this poster in 12 different languages on our webpage.

FOGO bin (Food organics garden organics)

- Fruit and vegetables
- Meat and seafood
- Used paper towels and tissues
- Bread, rice and dairy
- Garden organics
- Food soiled cardboard
- Compostable liners

Recycling bin

- Glass bottles and jars
- Plastic bottles and containers
- Cans
- Cardboard
- Paper

Items loose, rinsed and lids off.

General waste bin

- Damaged clothing
- Nappies
- Soft plastics (or take to REcycle bin)
- Polystyrene
- Coffee cups

These items cannot go into any kerbside bin. Take to your local drop off centre.

- Batteries
- Light globes
- E-waste
- Paint
- Aerosol cans



For more information call us on 9273 6000 or visit www.vincent.wa.gov.au/fogo



Non-compliance bin hanger – used for both SUDs and MDDs

A non-compliance bin hanger was designed specifically for FOGO bins using the icons from the Waste Sorted Toolkit. This is used for both contamination and bin placement issues. The waste collection drivers affix the tag to the bin when they can see that a bin they are about to tip is obviously contaminated. There is also an accompanying swamper that goes ahead on foot to check FOGO bins prior to collection and tag any contaminated bins.

Recently the City has targeted some known contamination areas on busy streets, which are harder for the City's drivers to stop on, by having Waste Officers do visual bin checks along those streets early in the morning. The waste collection truck then goes into that area when they are finished and does not collect any tagged bins. A record of contaminated bins is maintained and there is a process in place for communicating with repeat offenders.

