

# Smiths Beach Project, WA

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## Waste Management Plan

15 November 2021

Rev\_6

Smiths Beach 2014 Pty Ltd





waste less, achieve more

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## Glossary of terms and acronyms

Cart	Wheeled, open top bin often used for bulky items such as cardboard
Commingled recycling	Common recyclables, mostly packaging; such as glass, plastics, aluminium, steel, liquid paper board (milk cartons). Commingled recycling may include paper but often, and particularly in offices, paper and cardboard are collected separately.
General Waste	Material that is intended for disposal to landfill (or in some States, incineration), normally what remains after the recyclables have been collected separately.
MGB	Mobile Garbage Bin – A wheeled bin with a lid often used for kerbside collection of waste or recyclables. (Often called a ‘wheelie bin’).
MRB	Mobile Recycling Bin – A wheeled bin (“wheelie” bin) with a lid often used for kerbside collection of recyclables (similar to an MGB). Generally have a different colour body and/or lid to MGBs.
Organic waste	Separated food and/or ‘green’ material (e.g. grass clippings or vegetation prunings).
Recyclable	Material that can be collected separately from the general waste and sent for recycling. The precise definition will vary, depending upon location (i.e. systems exist for the recycling of some materials in some areas and not in others).
Recycling	Where a material or product undergoes a form of processing to produce a feedstock suitable for the manufacture of new products.
Reuse	The transfer of a product to another user, with no major dismantling or processing required. The term “reuse” can also be applied in circumstances where an otherwise disposable item is replaced by a more durable item hence avoiding the creation of waste (e.g. using a ceramic coffee mug in place of disposable cups).

# 1 Introduction

Encycle was commissioned by Smiths 2014 Pty Ltd to prepare a Waste Management Plan (WMP) for the proposed development ('the Project') located at Lot 4131 Smiths Beach Road, Yallingup in the City of Busselton ('the Site').

The Project consists of the following components:

- Tourist development comprising hotel accommodation, restaurant and wellness centre
- Campground
- Community Hub comprising café, reception hall, surf lifesaving club, Cape to Cape Welcome Centre and general store/bakery
- Holiday Homes

The development will be delivered via Community Title allowing for co-ordinated management control across all precincts.

This WMP has been prepared based on the following information:

- Architectural plans and area schedule from Kerry Hill Architects and Space Agency received 22 April 2021
- WALGA Commercial and Industrial Waste Management Plan Guidelines (2016)
- WALGA Multi-Dwelling Development Waste Management Plan Guidelines (2018)
- Green Star Communities tool
- Conversations with Alan Millar – City of Busselton regarding council waste management requirements for mixed use developments (3 & 4 March 2021)

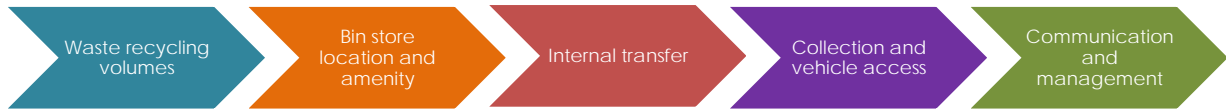
## 1.1 Context

For efficient and effective waste management, the collection and centralisation of waste and recyclables should be carefully considered at the design phase. Key factors to consider at the design phase include:

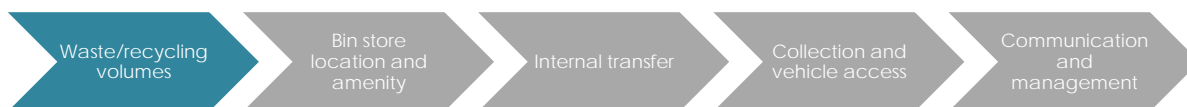
- The volumes of waste and recyclables likely to be generated during operation
- Size of bin storage area
- Safety for all operatives involved in waste management
- Access to bins and storage areas from within the development
- Access for trucks for waste collection
- Local council requirements
- Amenity (odours and noise)
- The ongoing management of waste and recycling services

## 1.2 Key components of the WMP

This WMP consists of five core components. The following report will present detailed information on each of the following components.



## 2 Estimated waste and recycling volumes



### 2.1 Local government requirements for waste volumes and bin type

The WALGA Multi-Dwelling Development Waste Management Plan Guidelines (2018) have been used as a basis for estimating waste generation rates for the holiday homes. The holiday home properties will be privately owned and pay residential rates. These properties may be used for short stay accommodation at the owners' discretion, this arrangement will be coordinated through the hotel management and the respective owner. The holiday homes are all located on private internal roads owned by the Community Scheme.

The following municipal waste generation rates have been applied to the holiday homes.

Generation rates for holiday homes		
Waste requirement	Recycling requirement	Food Organics Garden Organics (FOGO) requirements
240 L/unit/week	240 L/unit/fortnight	120 L/unit/week

City of Busselton are proposing to implement the FOGO service in 2022 or 2023. Currently only a 2-bin system is provided to single dwellings for general waste and recycling only (i.e. 2 x 240 L bins) however, the design allows for storage of 3 bins as per Table 1 in Section 2.2.1.

For the hotel, restaurant, café, reception hall, general store, Cape to Cape Welcome Centre, surf lifesaving facilities and campsites, the WALGA Commercial and Industrial Waste Management Plan Guidelines (2016) have been used in addition to Encycle's experience and knowledge<sup>1</sup>. Specifically, the generation rates used are presented below. The WALGA waste generation rates do not include a breakdown of material streams included in the 'recycling' stream. The final column presents Encycle Consulting's in-house estimate of the material streams present in the recycling stream based on our working experience of operational buildings.

<sup>1</sup> Where no generation rate is provided by the WALGA Guidelines, Encycle have formulated generation rates based on experience of working with operational buildings in the Perth area and drawn from other relevant audit information

Premises type	Waste generation rate	Recycling generation rate	Percentage breakdown of recycling stream by material*
Hotel (Beds)	5 L /bed/day	5 L /bed/day	50% cardboard 50% commingled
Hotel Bar	0.5 L /1m <sup>2</sup> /day	0.5 L /1m <sup>2</sup> /day	50% cardboard 50% commingled 20% cooking oil (in addition) 20% of general waste - organics
Retail <100m <sup>2</sup>	0.5 L /1m <sup>2</sup> /day	0.25 L /1m <sup>2</sup> /day	50% cardboard 50% commingled
Restaurant	6.7 L /1m <sup>2</sup> /day	1.3 L /1m <sup>2</sup> /day	50% cardboard 50% commingled 20% cooking oil 20% of general waste is organics 100% glass (in addition)
Office (Cape to Cape WC and some Hotel areas)	0.1 L /1m <sup>2</sup> /day	0.1 L /1m <sup>2</sup> /day	77% paper 14% cardboard 9% commingled
Bakery (rate applied: butcher/deli)	0.8 L /1m <sup>2</sup> /day	0.4 L /1m <sup>2</sup> /day	50% cardboard 50% commingled 20% of waste is organics
Café	3 L /1m <sup>2</sup> /day	2 L /1m <sup>2</sup> /day	50% cardboard 40% commingled 20% cooking oil 20% of waste is organics 100% glass (in addition)
Gymnasium	0.2 L /1m <sup>2</sup> /day	0.2 L /1m <sup>2</sup> /day	50% cardboard 50% commingled
Reception Hall	2 L /1m <sup>2</sup> /day	1 L /1m <sup>2</sup> /day	50% cardboard 50% commingled

\* Note: Percentages vary due to factors such as:

- Only materials that are found in the standard recycling streams are separated by percentage, based on other data sources (e.g. paper, cardboard, commingled).
- Glass from licensed restaurants is assumed to be 100% on top of the recycling generation rate as the overall generation rate for recycling appears to not take peak periods in licensed bar areas into consideration.
- Cooking oil is 20% on top of the recycling generation rate as it is an additional stream.
- Food waste is 20% of the **general waste** stream by volume in food service/preparation areas

## 2.2 Number and type of bins required for development

### 2.2.1 Holiday homes

The Project is split into eastern and western holiday home developments:

- Eastern – 46 dwellings
- Western – 15 dwellings

Each holiday home will have space to store the standard bins as per City of Busselton requirements (Table 1).



**Table 1: Number of bins for each holiday home**

	Bin size (L)	Number of bins	Collection frequency
General waste	240	1	Weekly
Commingled recycling	240	1	Fortnightly
FOGO *	120	1	Weekly

\* FOGO bins are included in the design to allow for introduction of this service in the future

## 2.2.2 Commercial

The bin numbers for the commercial elements of the Project, based on the following areas (m<sup>2</sup>) are shown in Table 2.

- Hotel beds – 65 rooms
- Hotel bar areas – 535 m<sup>2</sup> (lounge 235 m<sup>2</sup> + terrace 300 m<sup>2</sup>)
- Hotel restaurant – 592 m<sup>2</sup> (restaurant 435 m<sup>2</sup> + Hotel kitchen 157 m<sup>2</sup>)
- Hotel staff lounge – (office rate applied) 50 m<sup>2</sup>
- Hotel meeting rooms/office – 319 m<sup>2</sup> (staff office 17m<sup>2</sup> + GM office 12m<sup>2</sup> + external tce 100 m<sup>2</sup> + arrival area 90m<sup>2</sup> + meeting rooms 100m<sup>2</sup>)
- Gym/spa/wellness area – 400 m<sup>2</sup>
- Café - 215 m<sup>2</sup> (Internal 145 m<sup>2</sup> + kitchen 70 m<sup>2</sup>)
- Café bar area (hotel bar rate applied) – 26 m<sup>2</sup>
- General store (takeaway rate applied) - 127 m<sup>2</sup>
- Bakery (speciality retail as per butcher, deli, fishmonger applied) - 72 m<sup>2</sup>
- Reception Hall (function room rate applied) - 340 m<sup>2</sup> (hall 292 m<sup>2</sup> + kitchen 48 m<sup>2</sup>)
- Reception Hall bar - 18 m<sup>2</sup>
- Surf Life Saving Club room (bar rate applied) – 75 m<sup>2</sup>
- Surf Life Saving Club admin (office/admin 77 m<sup>2</sup> + first aid room 23 m<sup>2</sup>)
- Hire shop – 70 m<sup>2</sup>
- Cape to Cape Welcome Centre (office rate applied) - 109 m<sup>2</sup>

**Table 2: Number of general waste and recycling bins for commercial use**

	Bin size (L)	Number of bins	Collection frequency
General waste (ex. food waste)	1100	10	Every two days
Commingled recycling	240	7	Every two days
Cardboard and paper	1100	2	Every two days
Food waste	120	18	Every two days
Glass	240	9	Every two days
Used cooking oil	400	1	As required
Timber pallets	<i>Space for pallets and other returnable packaging</i>		

Food waste segregation has been designed into this Project. Smiths 2014 Pty Ltd are committed to segregation of food waste and diversion from landfill and are exploring options for on-site and/or off-site treatment to identify the most practical solution to minimising environmental impact of food waste.

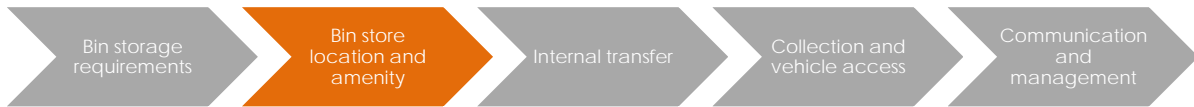
### 2.2.3 Campground

There are 36 camping platforms within the Project. The campground will have bin stations at convenient locations around the site (e.g. adjacent to shower blocks/access points). Waste and recycling from each bin station will be transferred to the loading dock for collection (table 3 below)

**Table 3: Bins required for campsite bin store**

	Bin size (L)	Number of bins	Collection frequency
General waste	1100	1	Every 2 days
Commingled recycling	1100	1	Every 2 days
Glass	240	1	Every 2 days
Food waste	20	1	Every 2 days

### 3 Bin store location and amenity



#### 3.1 Bin store location

The Project will have one main bin store to allow for the separate storage and collection of commercial waste and recycling from the hotel, café, general store, Cape to Cape track and surf lifesaving club.

The bin store will be located in back of house, on the ground floor of the Community Hub (refer Figures 1&2).



Figure 1: Ground floor plan showing the commercial bin store

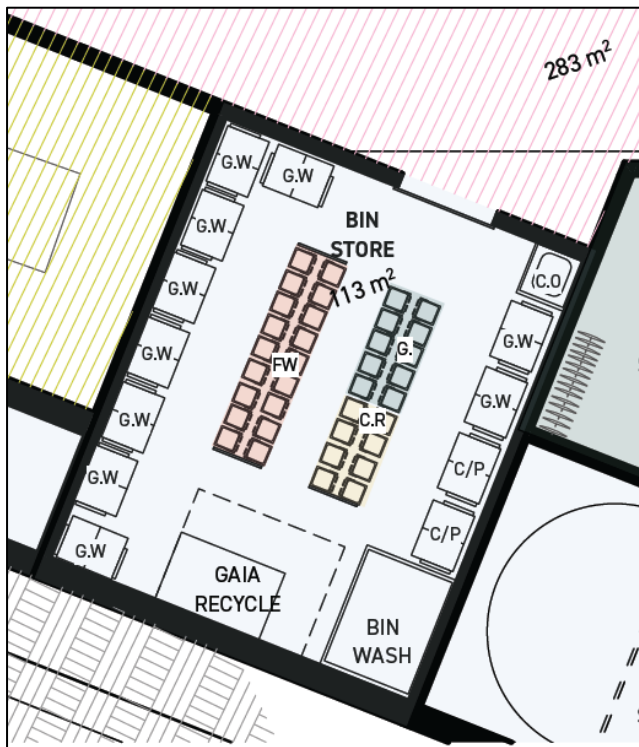


Figure 2: Detail of the commercial bin store

The campground will have bin stations at convenient locations around the site (e.g. adjacent to shower blocks/access points). Bins will be transferred to the loading dock (e.g. using a small site vehicle/tug system) for collection (see Figure 3).

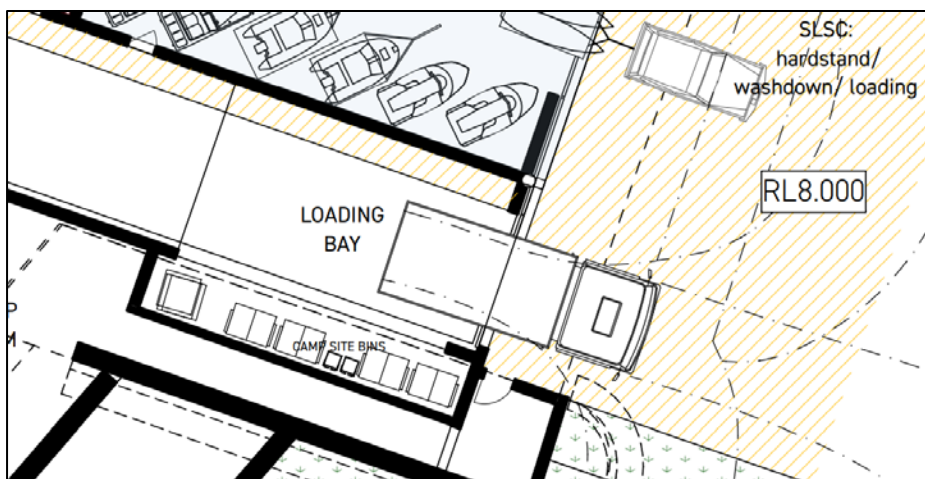


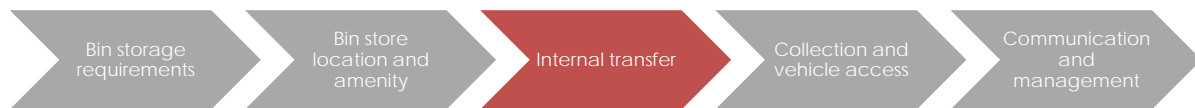
Figure 3: Campground bins at loading dock for collection

Holiday home properties are designed to store waste, recycling and FOGO (when implemented) bins individually on their property.

### 3.2 Bin store amenity (central commercial bin store)

<b>Bin Transfer</b>	
Aisle door and lift width:	All doors, corridors and lifts on the transfer route are designed for the largest bin to fit through.
General health and safety:	Waste systems are designed to ensure that bins (particularly when full) are not required to be moved over any significant distances, up/down steep ramps (grade of slope <1:20) and definitely avoid stairs or other potential hazards.
<b>Bin store</b>	
Washing bins and waste storage area:	Impermeable floors grading to an industrial floor waste (including a charged 'water-trap' connected to sewer or an approved septic system), with a hose cock to enable bins and /or the enclosure to be washed out. 100 mm floor waste gully to waste outlet. Both hot and cold water will be available.
Bin store walls and ceilings:	All internal walls in bin stores will be cement rendered (solid and impervious) to enable easy cleaning. Ceilings will be finished with a smooth faced, non-absorbent material capable of being easily cleaned. Walls and ceilings will be finished or painted in a light colour.
Ventilation and odour:	The design of bin store/s will provide for adequate separate ventilation with a system that complies with Australian Standard 1668 (AS1668). The ventilation outlet is not in the vicinity of windows or intake vents associated with other ventilation systems.
Doors:	Ventilated roller doors will be specified both internally and externally to enable bins to be easily wheeled into and out of the bin stores.
Vermin:	Self-closing doors to the bin store/s will be installed to eliminate access by vermin
Lighting:	Bin store will be provided with artificial lighting, sensor or switch controlled both internal/external to the room.
Noise:	Noise is to be minimised to prevent disruption to occupants or neighbours.
Fully Enclosed:	The bin store will be fully enclosed and only be accessible by staff and the waste service provider.
Aesthetics:	The bin store will be consistent with the overall aesthetics of the development.
Signage:	Visual aids and signage will be provided to ensure that the area works as intended.

## 4 Internal transfer



### 4.1 Transfer of waste from the holiday homes to collection point

Holiday home owners will be responsible for storing waste and recyclables separately within the property (and food organics/garden organics when the FOGO service is implemented). Owners will ensure the relevant bins are presented on the kerbside on collection day and are retrieved after servicing.

Should the property be leased out for short-stay accommodation, the hotel management will ensure the occupants are aware of the operation of the bin systems. Hotel management will coordinate the presentation of bins kerbside on collection day and the retrieval after servicing.

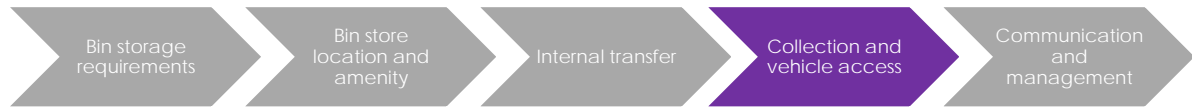
### 4.2 Transfer of waste from commercial

Staff from the commercial areas of the development will manually transfer waste and recyclables to the commercial bin store.

Hotel housekeepers will transfer bins from each hotel floor to the bin store using housekeeping trollies.

Campground bin stations will be serviced daily and waste/recycling brought to the loading dock for collection.

## 5 Collection and vehicle access



The City of Busselton will service the holiday home general waste and recycling bins (and FOGO from 2022/23), while private service providers will undertake the commercial (including campsite) waste and recycling collections from the loading dock.

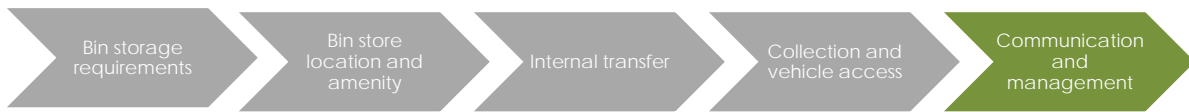
The internal roads to access the holiday homes will be owned by the Community Corporation (under the Community Title framework).

On relevant collection days, the City of Busselton side-lift vehicle will enter the development and service holiday homes individually from the kerbside.

Private service contractor rear-lift vehicles for general waste and recycling will enter the Project from Smiths Beach Road and park at the loading dock. Operatives will enter the bin stores to retrieve and service the bins.

Access to the grease trap is located on ground level in the back of house service corridor with a static line to loading bay area for collection.

## 6 Ongoing communication and management



### 6.1 Management

The development facilities management team will be responsible for overseeing the waste management systems for the commercial and campsite elements of the development. They will be trained and informed about their responsibility to work closely with the private service provider and City of Busselton regarding the schedule for collection and presentation of bins. The facilities managers will be responsible for maintaining the bin store in a clean and tidy condition at all times and ensuring bins are washed regularly.

Hotel management will ensure that guests in the holiday homes use the bin systems correctly and that bins are set out on the kerbside for collection and returned to the property once emptied.

### 6.2 Communication

All commercial staff will be made aware through a body corporate document (or equivalent) of the waste and recycling systems and how they should be used. An operational Waste Management Plan suitable for presenting to staff and tenants such as the hotel operator, will be developed and implemented during both the initial occupation and ongoing management of the development.