Waste Management Plan

96 Capel Drive, Capel

Prepared for Ocean Gardens Pty Ltd

23 October 2025

Project Number: WMP25070

Assets | Engineering | Environment | Noise | Spatial | Waste

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
1.0	First Approved Release	23/10/2025	JL/AB	AB	

Approval for Release

Name	Position	File Reference
Ann Brouwer	Project Manager – Waste Management Plan Lead	WMP25070-02_Waste Management Plan_1.0
Signature	Ann Brouwer Digitally signed by Ann Brouwer Date: 2025.10.23 15:16:19 +08'00'	

Executive Summary

Ocean Gardens Pty Ltd is seeking development approval for the proposed retirement living/short-stay accommodation development located at 96 Capel Drive, Capel (the Proposal).

To satisfy the conditions of the development application the Shire of Capel (the Shire) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the Shire's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Bin Storage Area 1					
Refuse	6,008	1,100	Six	Once each week	Private Contractor
Recycling	4,392	1,100	Four	Once each week	Private Contractor
FOGO	2,530	600	Four	Once each week	Private Contractor
Bin Storage Area 2A					
Refuse	672	240	Three	Once each week	Private Contractor
Recycling	480	240	Two	Once each week	Private Contractor
FOGO	288	240	Two	Once each week	Private Contractor
Bin Storage Area 2B					
Refuse	63	240	One	Once each week	Private Contractor
Recycling	63	240	One	Once each week	Private Contractor
Bin Storage Area 3					
Refuse	1,440	240	Six	Once each week	Private Contractor
Recycling	720	240	Three	Once each week	Private Contractor

A private contractor will service the Proposal onsite, directly from the respective Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Forrest Road, Capel Drive or Roe Road.

A building manager/caretaker will oversee the relevant aspects of waste management for the Over 55's Development.

The Tavern Operator will oversee the relevant aspects of waste management for the Short Stay Development.

Separate independent management will oversee the relevant aspects of waste management for Lot 12.

Table of Contents

Tables

Diagrams

Figures

1 Introduction

Ocean Gardens Pty Ltd is seeking development approval for the proposed retirement living/short-stay accommodation development located at 96 Capel Drive, Capel (the Proposal).

To satisfy the conditions of the development application the Shire of Capel (the Shire) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the Shire's requirements.

The Proposal is bordered by Capel Drive to the north, vacant land/Hutton Road to the east, Roe Road to the south and Forrest Road to the west, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse, recyclables and FOGO) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide an adequately sized Bin Storage Area, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Internal Transfer of Waste;
- Section 4: Waste Storage;
- Section 5: Waste Collection;
- Section 6: Waste Management; and
- Section 7: Conclusion.

2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse, recyclables and FOGO is based on the number of apartments and the floor area (m^2) of the commercial tenancies at the Proposal. The Proposal consists of the following:

Bin Storage Area 1 – Over 55 Residential

- One Bedroom Apartments – 8;
- Two Bedroom Apartments – 39;
- Three Bedroom Apartments – 5; and
- Clubhouse – 503m^2.

Bin Storage Area 2A – Lot 12 Residential

- One Bedroom Apartments – 4; and
- Two Bedroom Apartments – 4.

Bin Storage Area 2B – Lot 12 Commercial

- Office – 90m^2.

Bin Storage Area 3 – Short Stay Accommodation

- One Bedroom Units – 32; and
- Two Bedroom Units – 4.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Perth's *Waste Guidelines for All Developments* (2019).

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

Table 2-1: Waste Generation Rates

Tenancy Use Type	City of Perth's Guideline Reference	Refuse Generation Rate	Recycling Generation Rate	FOGO Generation Rate
One Bedroom Apartments	One Bedroom	56L/week	40L/week	24L/week
Two Bedroom Apartments	Two Bedroom	112L/week	80L/week	48L/week
Three Bedroom Apartments	Three Bedroom	168L/week	120L/week	72L/week
Over 55's Clubhouse	Offices	10L/100m^2/day	10L/100m^2/day	-
Office	Offices	10L/100m^2/day	10L/100m^2/day	-
Short Stay Accommodation Units	Backpacker, Boarding House, Guest House	40L/bed/week	20L/bed/week	-

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

2.3.1 Bin Store Area 1 Generation

Waste generation volumes in litres per week (L/week) adopted for the Bin Storage Area 1 is shown in Table 2-2. It is estimated that the Over 55s Apartments and associated Clubhouse will generate 6,008L of refuse, 4,392L of recyclables and 2,424L of FOGO each week.

Table 2-2: Estimated Waste Generation – Bin Storage Area 1

Over 55s Apartments/Amenities	Number of Apartments/Area (m^2)	Waste Generation Rate (L/week)	Waste Generation (L/week)
Refuse			
One Bedroom Apartments	8	56	480
Two Bedroom Apartments	39	112	4,368
Three Bedroom Apartments	5	168	840
Clubhouse	503m^2	10	352
		Total	**6,008**
Recyclables			
One Bedroom Apartments	8	40	320
Two Bedroom Apartments	39	80	3,120
Three Bedroom Apartments	5	120	600
Clubhouse	503m^2	10	352
		Total	**4,392**
FOGO			
One Bedroom Apartments	8	24	192
Two Bedroom Apartments	39	48	1,872
Three Bedroom Apartments	5	72	360
		Total	**2,424**

2.3.2 Bin Store Area 2A Generation

Waste generation volumes in litres per week (L/week) adopted for the Bin Storage Area 2A is shown in Table 2-3. It is estimated that the Lot 12 Residential Apartments will generate 672L of refuse, 480L of recyclables and 288L of FOGO.

Table 2-3: Estimated Waste Generation – Bin Storage Area 2A

Residential Apartments	Number of Apartments	Waste Generation Rate (L/week)	Waste Generation (L/week)
Refuse			
One Bedroom Apartments	4	56	224
Two Bedroom Apartments	4	112	448
		Total	**672**
Recyclables			
One Bedroom Apartments	4	40	160
Two Bedroom Apartments	4	80	320
		Total	**480**
FOGO			
One Bedroom Apartments	4	24	96
Two Bedroom Apartments	4	48	192
		Total	**288**

2.3.3 Bin Store Area 2B Generation

Waste generation volumes in litres per week (L/week) adopted for the Bin Storage Area 2B is shown in Table 2-4. It is estimated that the Lot 12 Commercial Tenancy will generate 63L of refuse and 63L of recyclables.

Table 2-4: Estimated Waste Generation – Bin Storage Area 2B

Office	Floor Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
Refuse	90	10	63
Recycling	90	10	63
		Total	**126**

2.3.4 Bin Store Area 3 Generation

Waste generation volumes in litres per week (L/week) adopted for the Bin Storage Area 3 is shown in Table 2-5. It is estimated that the Short Stay Accommodation Units will generate 1,440L of refuse and 720L of recyclables.

Table 2-5: Estimated Waste Generation – Bin Storage Area 3

Commercial Short Stay Units	Number of Beds	Waste Generation Rate (L/bed/week)	Waste Generation (L/week)
Refuse			
Short Stay One Bed Units	32	40	1,280
Short Stay Two Bed Units	4	40	160
		Total	**1,440**
Recyclables			
Short Stay One Bed Units	32	20	640
Short Stay Two Bed Units	4	20	80
		Total	**720**

3 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available throughout the buildings at the Proposal for the source separation of refuse, recycling and FOGO.

Over 55 Residential Apartments/Clubhouse

Each individual Over 55 Residential Apartment will have a 120L refuse, recycling and FOGO bin stored within their respective lots, refer Diagram 1. On a designated day, determined by building management, residents will present their individual bins to their respective Buggy Bays for collection by a caretaker/cleaner.

In addition, the Over 55's two and three storey apartment buildings will have interim Bin Storage Areas on each floor, containing a 240L refuse, recycling and FOGO bin for the temporary storage of waste prior to consolidation to Bin Storage Area 1, refer Diagram 2.

The Over 55 Clubhouse will also have one 240L refuse, recycling and FOGO bin within an interim Bin Storage Area for residents/cleaners to dispose of waste prior to consolidation to Bin Storage Area 1, refer Diagram 3.

Waste from the Over 55 Residential Apartment Buggy Bays/interim Bin Storage Areas and the Clubhouse interim Bin Storage Area will then be transferred by a caretaker/cleaner via a buggy to Bin Storage Area 1 where it will be consolidated into the larger 600L and 1,100L bins, as required.

Lot 12 and Short Stay Accommodation Units

The Lot 12 Residential Apartments and Commercial Tenancy and the Short Stay Accommodation Units will also have space to accommodate two under counter/kitchen bins for the source separation of refuse and recycling, and FOGO for the Lot 12 Residential Apartments. These internal bins will be collected by residents/staff/cleaners and transferred to the respective Bin Storage Area to be deposited into the appropriate bins, as required.

Communal Area Waste

Waste generated in short stay communal bbq area, will be collected in appropriately sized and labelled refuse, recycling and FOGO bins, refer Diagram 4. Bins utilised for recycling and FOGO will be appropriately labelled to distinguish them from refuse bins. The caretaker/cleaners will take the waste from these bins to the short stay accommodation bin store (Bin Storage Area 3) for disposal in the appropriate bins. The caretaker/cleaners will clean these bins, as required.

All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist tenants to dispose of their separate waste materials in the correct bins.

Diagram 1: Example Over 55 Apartment Bin Storage

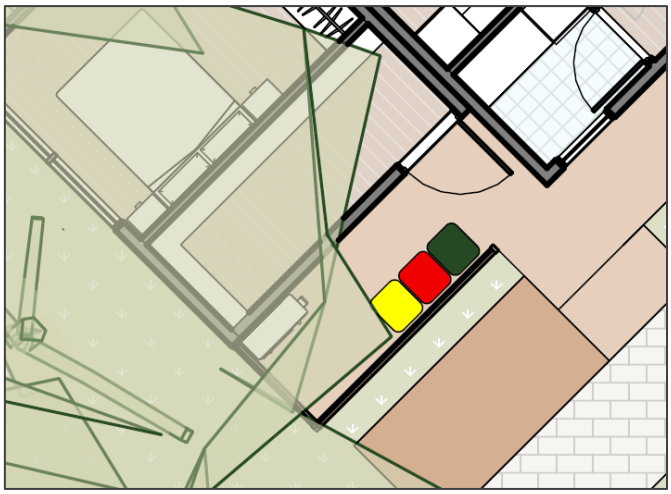


Diagram 2: Example Over 55 Two/Three Storey Apartment Bin Storage

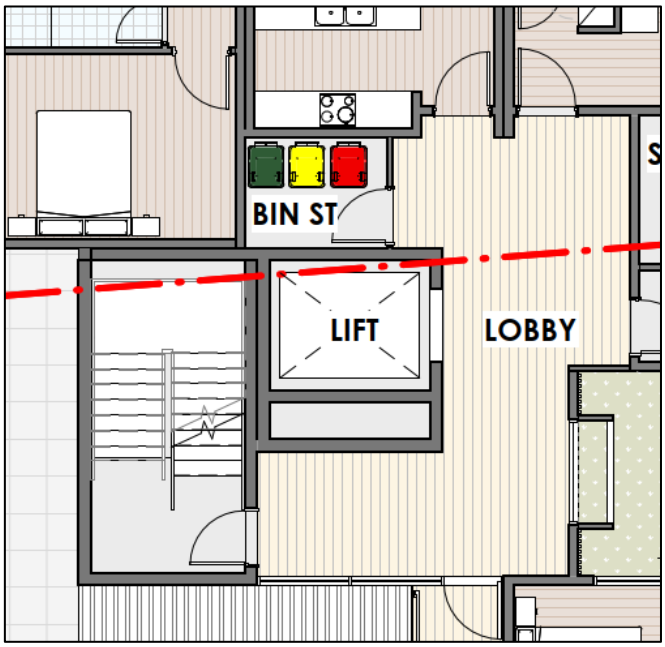


Diagram 3: Over 55 Clubhouse Bin Storage

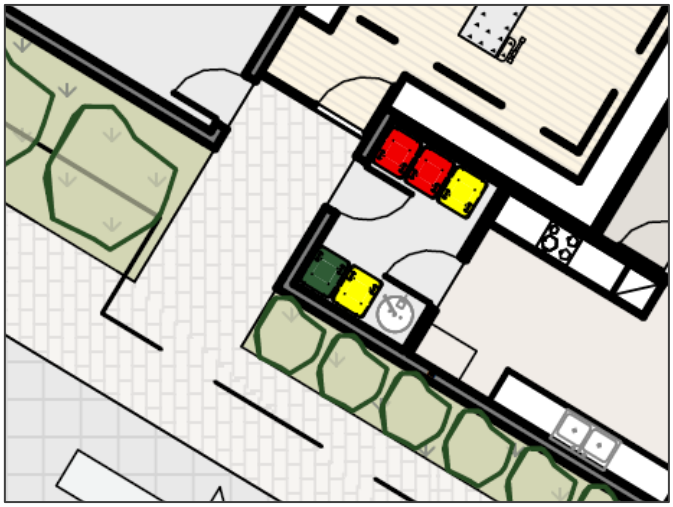


Diagram 4: Short Stay Communal BBQ Area Bin Storage

4 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Areas, as shown in Diagram 5, and discussed in the following sub-sections.

Diagram 5: Bin Storage Areas

4.1 Bin Sizes

Table 4-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 4-1: Typical Bin Dimensions

Dimensions (m)	Bin Sizes		
	240L	660L	1,100L
Depth	0.730	0.780	1.070
Width	0.585	1.260	1.240
Height	1.060	1.200	1.330

Reference: SULO Bin Specification Data Sheets

4.2 Bin Storage Areas

4.2.1 Bin Storage Area 1 Size

To ensure sufficient area is available for storage of bins for Bin Storage Area 1, the amount of bins required was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 4-1 and based on collection of refuse, recyclables and FOGO once each week.

Based on the results shown in Table 4-2, Bin Storage Area 1 has been sized to accommodate:

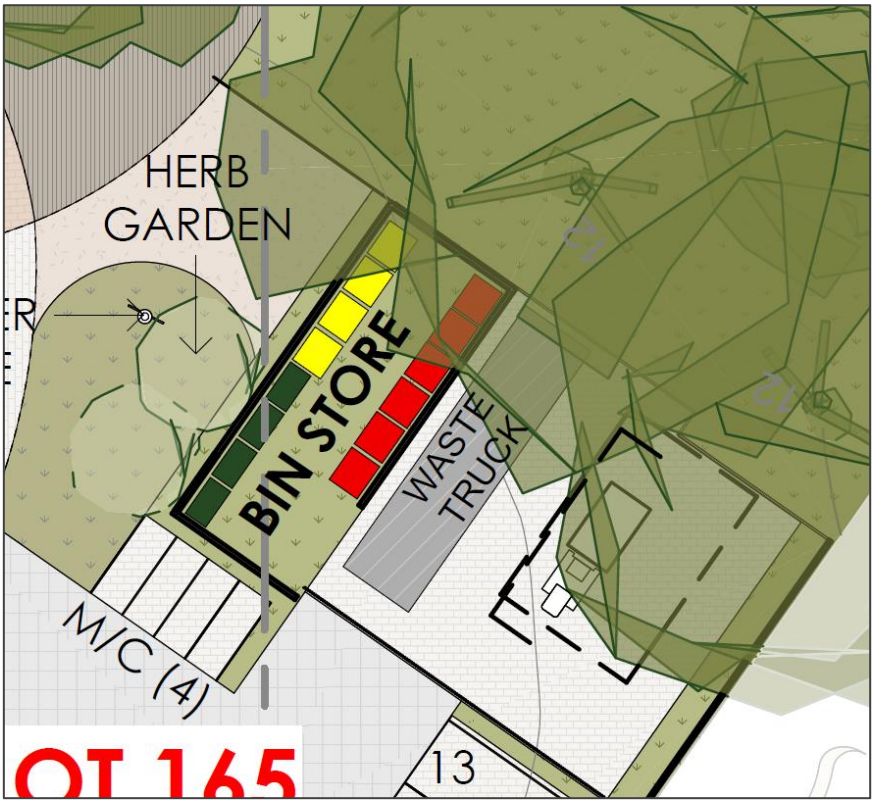
- Six 1,100L refuse bins;
- Four 1,100L recycling bins; and
- Four 660L FOGO bin.

Table 4-2: Bin Requirements for Bin Storage Area 1

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	6,008	26	10	6
Recycling	4,392	19	7	4
FOGO	2,424	11	4	-

The configuration of these bins within Bin Storage Area 1 is shown in Diagram 6. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 6 represents the maximum requirements assuming one collection each week of refuse, recyclables and FOGO.

Diagram 6: Bin Storage Area 1



4.2.2 Bin Storage Area 2A Size

To ensure sufficient area is available for storage of bins for Bin Storage Area 2A, the amount of bins required was modelled utilising the estimated waste generation in Table 2-3, bin sizes in Table 4-1 and based on collection of refuse, recyclables and FOGO once each week.

Based on the results shown in Table 4-3, Bin Storage Area 2A has been sized to accommodate:

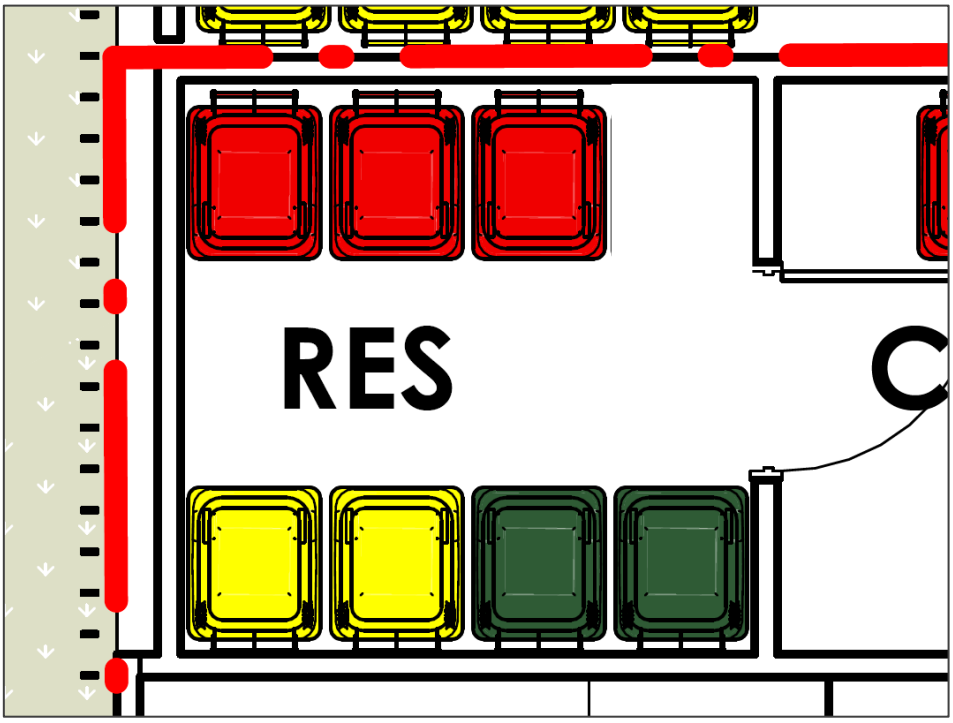
- Three 240L refuse bins; and
- Two 240L recycling bins; and
- Two 240L FOGO bin.

Table 4-3: Bin Requirements for Bin Storage Area 2A

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	672	3	2	1
Recycling	480	2	1	1
FOGO	288	2	1	-

The configuration of these bins within Bin Storage Area 2A is shown in Diagram 7. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 7 represents the maximum requirements assuming one collection each week of refuse, recyclables and FOGO.

Diagram 7: Bin Storage Area 2A



4.2.3 Bin Storage Area 2B Size

To ensure sufficient area is available for storage of bins for Bin Storage Area 2B, the amount of bins required was modelled utilising the estimated waste generation in Table 2-4, bin sizes in Table 4-1 and based on collection of refuse and recyclables once each week.

Based on the results shown in Table 4-4, Bin Storage Area 2B has been sized to accommodate:

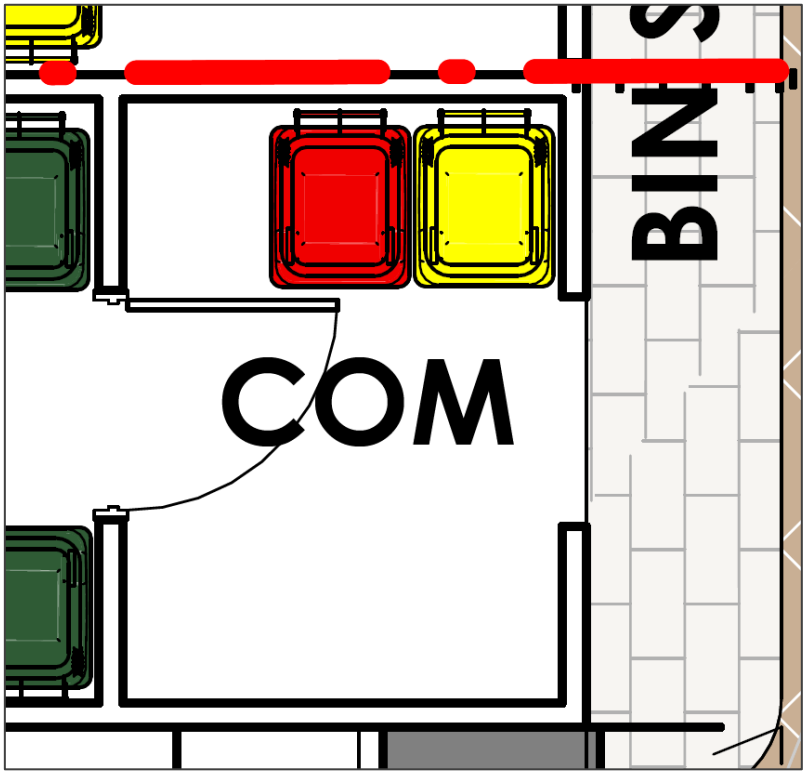
- One 240L refuse bins; and
- One 240L recycling bins.

Table 4-4: Bin Requirements for Bin Storage Area 2B

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	63	1	1	1
Recycling	63	1	1	1

The configuration of these bins within Bin Storage Area 2B is shown in Diagram 8. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 8 represents the maximum requirements assuming one collection each week of refuse and recyclables.

Diagram 8: Bin Storage Area 2B



4.2.4 Bin Storage Area 3 Size

To ensure sufficient area is available for storage of bins for Bin Storage Area 3, the amount of bins required was modelled utilising the estimated waste generation in Table 2-5, bin sizes in Table 4-1 and based on collection of refuse and recyclables once each week.

Based on the results shown in Table 4-5, Bin Storage Area 3 has been sized to accommodate:

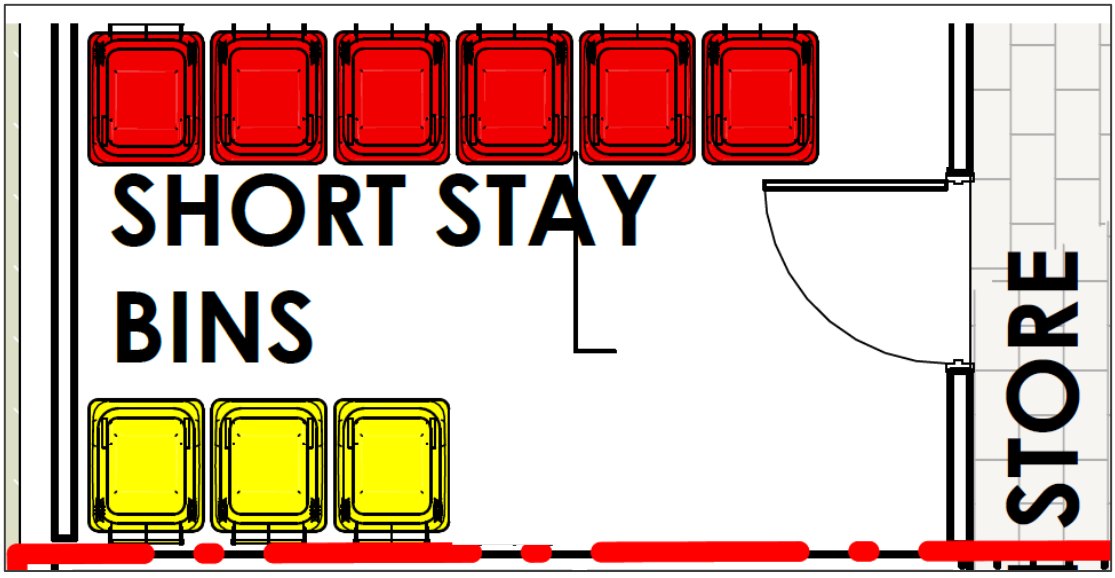
- Six 240L refuse bins; and
- Three 240L recycling bins.

Table 4-5: Bin Requirements for Bin Storage Area 3

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	1,440	6	3	2
Recycling	720	3	2	1

The configuration of these bins within Bin Storage Area 3 is shown in Diagram 9. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 9 represents the maximum requirements assuming one collection each week of refuse and recyclables.

Diagram 9: Bin Storage Area 3



4.3 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Area self-closing and vermin proof;
- Doors to the Bin Storage Area wide enough to fit bins through;
- Ventilated to a suitable standard;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter into the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Area will be monitored by the building manager/tavern operator/caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

5 Waste Collection

A private waste collection contractor will service the Proposal and provide the following:

Bin Storage Area 1:

- Six 1,100 refuse bins, collected once each week;
- Four 1,100 recycling bins, collected once each week; and
- Four 660L FOGO bins, collected once each week.

Bin Storage Area 2A:

- Three 240L refuse bins, collected once each week;
- Two 240L recycling bins, collected once each week; and
- Two 240L FOGO bins, collected once each week.

Bin Storage Area 2B:

- One 240L refuse bin, collected once each week; and
- One 240L recycling bin, collected once each week.

Bin Storage Area 3:

- Six 240L refuse bins, collected once each week; and
- Three 240L recycling bins, collected once each week.

The private contractor will utilise a rear loader waste collection vehicle to service the bins, directly from the respective Bin Storage Area.

The private contractor's waste collection vehicle will travel with left hand lane traffic flow and turn into the Proposal in forward gear and pull up adjacent to the respective Bin Storage Areas for servicing, refer Diagram 10.

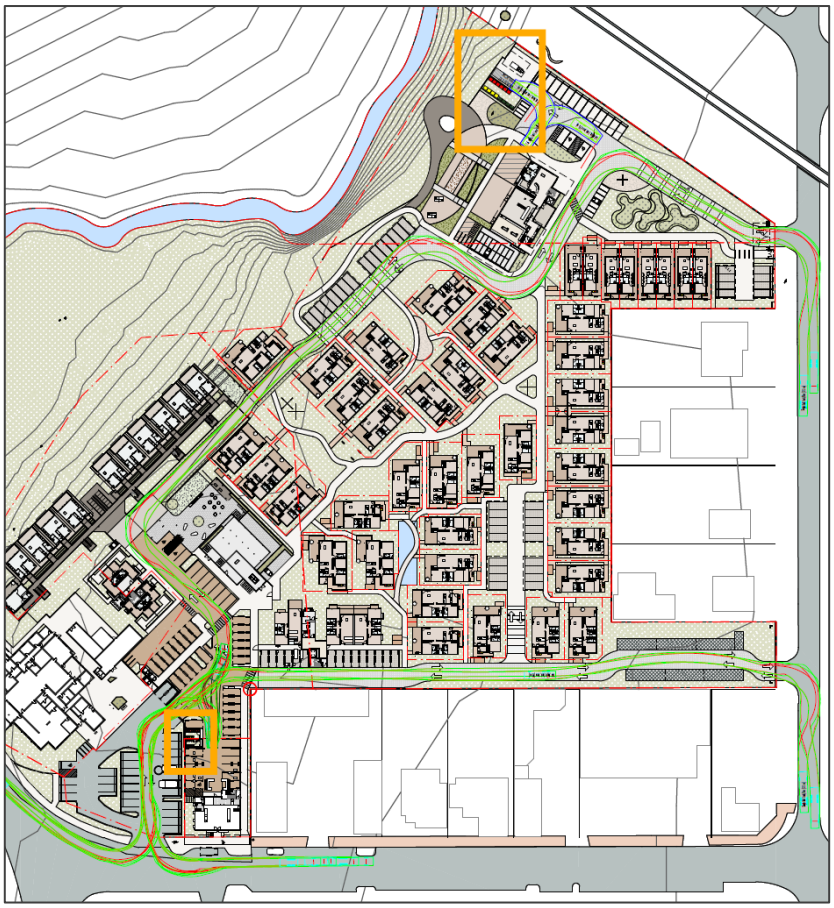
Private contractor's staff will ferry bins to and from the waste collection vehicle and the Bin Storage Areas during servicing. The private contractor will be provided with key/PIN code access to the Bin Storage Areas and security access gates to facilitate servicing, if required.

Once servicing is complete the private contractor's rear loader waste collection vehicle will exit in a forward motion, moving with traffic flow.

The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to the street on collection days. In addition, servicing of bins onsite will reduce the noise generated in the area during collection. Noise from waste vehicles must comply with the Environmental Protection (Noise) Regulations and such vehicles should not service the site before 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm on Sundays and Public Holidays.

The ability of waste collection vehicles to access the Proposal has been assessed by qualified traffic engineers and further information will be included within their Traffic Impact Assessment.

Diagram 10: Swept Path Analysis and Waste Collection Points



5.1 Bulk and Speciality Waste

Adequate space may also be allocated throughout the Proposal for placement of cabinets/containers for collection and storage of bulk and specialty wastes that are unable to be disposed of within the bins in the Bin Storage Areas. These may include items such as:

- Refurbishment wastes from fit outs;
- Batteries and E-wastes;
- White goods/appliances;
- Cleaning chemicals; and
- Commercial light globes.

Removal of these wastes will be monitored by a building manager/tavern operator/caretaker, who will liaise with staff and cleaners to assist, as required. A temporary skip bin could be utilised for collections, if required.

6 Waste Management

A building manager/Taven Operator/caretaker will be engaged to complete the following tasks:

- Monitoring and maintenance of bins within the Bin Storage Areas;
- Cleaning of bins and the Bin Storage Areas, when required;
- Collecting waste from Over 55 Apartment and Clubhouse Interim Bin Storage Areas for consolidation into the bins in Bin Storage Area 1;
- Ensure all residents/tenants at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor resident/tenant behaviour and identify requirements for further education and/or signage;
- Monitor bulk waste collection services and assist residents to store/remove bulk wastes appropriately; and
- Regularly engage with the private contractor to ensure efficient and effective waste service is maintained.

7 Conclusion

As demonstrated within this WMP, the Proposal provides sufficiently sized Bin Storage Areas for storage of refuse, recyclables and FOGO, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that adequately designed Bin Storage Areas have been provided, and collection of refuse, recyclables and FOGO can be completed from the Proposal.

The above is achieved using:

Bin Storage Area 1:

- Six 1,100 refuse bins, collected once each week;
- Four 1,100 recycling bins, collected once each week; and
- Four 660L FOGO bins, collected once each week.

Bin Storage Area 2A:

- Three 240L refuse bins, collected once each week;
- Two 240L recycling bins, collected once each week; and
- Two 240L FOGO bins, collected once each week.

Bin Storage Area 2B:

- One 240L refuse bin, collected once each week; and
- One 240L recycling bin, collected once each week.

Bin Storage Area 3:

- Six 240L refuse bins, collected once each week; and
- Three 240L recycling bins, collected once each week.

A private contractor will service the Proposal onsite, directly from the respective Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Forrest Road, Capel Drive or Roe Road.

A building manager/caretaker will oversee the relevant aspects of waste management for the Over 55's Development.

The Tavern Operator will oversee the relevant aspects of waste management for the Short Stay Development.

Separate independent management will oversee the relevant aspects of waste management for Lot 12.

Figures

P: PO Box 454, Leederville WA 6903 | A: 604 Newcastle St, Leederville WA 6007 | T: 1300 251 070 | W: www.talisconsultants.com.au

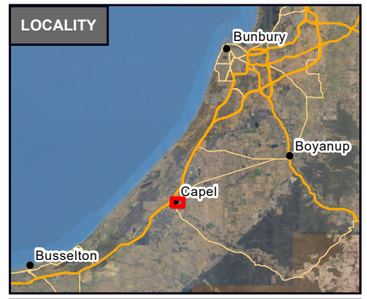
Data source: Roads, Cadastre - Landgate, 2025. Imagery: Landgate, 2024.

LEGEND

- Site Boundary

Cadastre

- Crown Allotment
- Freehold
- Road
- Strata Plan or Lot
- Easement
- Reserve



LOCALITY

96 Capel Drive
Capel WA 6271

Julie Watts & Shelley Tyrell

N
0 10 20 30 40 50 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:1,200

Prepared:	E Jackson	Date:	24/07/2025
Reviewed:	C Andersen	Revision:	A
Project:	WMP25070		

talis consultants

Figure 01

Document Path: \\server\talis\SECTIONS\Waste\PROJECTS\WMP2025\WMP25070 - 96 Capel Drive, Capel\GIS\Maps\WMP25070 - 96 Capel Drive, Capel\WMP25070 - 96 Capel Drive, Capel.aprx

talis consultants

Assets | Engineering | Environment | Noise | Spatial | Waste

HEAD OFFICE
604 Newcastle Street,
Leederville, WA 6007

NSW OFFICES
Nowra
76 Bridge Road,
Nowra, NSW 2541

Newcastle
58 Cleary Street,
Hamilton, NSW 2303

QLD OFFICE
Brisbane
35 Boundary Street,
South Brisbane, QLD 4101

P: 1300 251 070 | E: enquiries@talisconsultants.com.au

ABN 85 967 691 321