



Waste Management Plan

50 Alexandria View, Mindarie WMP

Prepared for Edge Visionary Living

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Project Number: TW22063

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Executive Summary

Edge Visionary Living is seeking development approval for the proposed residential development located at 50 Alexandria View, Mindarie (the Proposal).

To satisfy the conditions of the development application the City of Wanneroo (the City) 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 City'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					
Refuse	15,920	660	13	Twice each week	Private Contractor
Recycling	5,840	660	9	Once each week	Private Contractor

A private contractor will service the Proposal utilising a rear loader waste collection vehicle. The private contractor's waste collection vehicle will reverse into the site from Stockton Lane and pull up adjacent to the Bin Storage Area to service the bins and exit in forward gear.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

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1 Introduction

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The Proposal is bordered by Medway Lane to the north, Stockton Lane to the east, Alexandria View to the south and residential properties 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 and recyclables) 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 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: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: 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 and recyclables is based on the number of apartments, townhouses and penthouses, as follows:

- One Bedroom Apartments – 8;
- Two Bedroom Apartments – 49;
- Three Bedroom Apartments – 20;
- Three Bedroom Townhouses – 5; and
- Penthouses – 6.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the Western Australian Local Government Association's (WALGA) Multi Dwelling Development Waste Management Plan Guidelines (2014).

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

Table 2-1: Waste Generation Rates

Tenancy Use Type	WALGA Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
One Bedroom Apartments	1 Bedroom	80L/week	20L/week
Two Bedroom Apartments	2 Bedroom	160L/week	40L/week
Three Bedroom Apartments	3+ Bedroom	240L/week	120L/week
Three Bedroom Townhouses	3+ Bedroom	240L/week	120L/week
Penthouses	3+ Bedroom	240L/week	120L/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.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown Table 2-2. It is estimated that the Proposal will generate 15,920L of refuse and 5,840L of recyclables each week.

Table 2-2: Estimated Waste Generation

Tenancy Use Type	Number of Apartments / Townhouses / Penthouses	Waste Generation Rate (L/week)	Waste Generation (L/week)
Refuse			
One Bedroom Apartments	8	80	640
Two Bedroom Apartments	49	160	7,840
Three Bedroom Apartments	20	240	4,800
Three Bedroom Townhouses	5	240	1,200
Penthouses	6	240	1,440
Total			15,920
Recyclables			
One Bedroom Apartments	8	20	160
Two Bedroom Apartments	49	40	1,960
Three Bedroom Apartments	20	120	2,400
Three Bedroom Townhouses	5	120	600
Penthouses	6	120	720
Total			5,840

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area, as shown in Figure 2, and discussed in the following sub-sections.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, the Proposal will have room to accommodate two kitchen type bins within each apartment/townhouse/penthouse for the separate disposal of refuse and recyclables. Waste from these internal bins will be transferred by residents directly to the Bin Storage Area and deposited into the appropriate bins.

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

3.2 Bin Sizes

Table 3-1 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 3-1: Typical Bin Dimensions

Dimensions	Bin Sizes			
	240L	360L	660L	1,100L
Depth (mm)	730	848	780	1,070
Width (mm)	585	680	1,260	1,240
Height (mm)	1,060	1,100	1,200	1,300
Area (mm ²)	427	577	983	1,327

Reference: SULO Bin Specification Data Sheets

3.3 Bin Storage Area Size

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

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

- Thirteen 660L refuse bins; and
- Nine 660L recycling bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	15,920	34	23	13	8
Recycling	5,840	25	17	9	6

Note: the waste generation volumes are best practice estimates and the number of bins to be utilised represents the maximum requirements once the Proposal is fully operational. Bin requirements may be impacted as the development becomes operational and the nature of the residents and waste management requirements are known.

3.3.1 Provision for Food Organics Garden Organics (FOGO)

In the near future it is expected that the City will be introducing bins for the separate collection of food organics and garden organics (FOGO) within multi-unit residential properties in line with the state government's Waste Avoidance and Resource Recovery (WARR) Strategy 2030. As such, the development will provide sufficient space to accommodate three additional 240L FOGO bins in the Bin Storage Area, should it be required to separate food waste for collection in the future.

Kitchen caddies would be used within each apartment/townhouse/penthouse to collect FOGO, which will then be taken by residents to the Bin Storage Area for depositing into the communal 240L lime green lidded FOGO bins.

3.4 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/caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

A private contractor will service the Proposal and provide thirteen 660L bins for refuse and nine 660L bins for recyclables. Refuse will be collected twice each week and recyclables will be collected once each week utilising a rear loader waste collection vehicle.

The contractor will service the Proposal onsite, directly from the Bin Storage Area. The private contractor's waste collection vehicle will enter the Proposal in reverse gear via Stockton Lane and pull up adjacent to the Bin Storage Area for servicing.

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

Once servicing is complete the private contractor's waste collection vehicle will exit in a forward motion, turning onto Stockton Lane.

The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to the laneway and on the verge 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 for the private contractor's waste collection vehicle to access the Proposal in a safe manner will be assessed by qualified traffic engineers and will be included within their Transport Impact Statement.

4.1 Residential Bulk Waste

Given the streetscape adjacent to the Proposal, placement of bulk waste on the verge for collection would be considered undesirable. Instead, bulk waste material will be removed from the Proposal as it is generated and will be the responsibility of the resident. A car bay could be utilised for the ad-hoc use of temporary skip bins for the collection of bulky wastes such as white goods and mattresses, if required.

Greenwaste collection services will be provided by external contractors, as required. The building manager/caretaker will liaise with service providers to ensure an efficient and effective service is maintained.

Removal of bulk waste and green waste will be monitored by the building manager/caretaker, who will assist as required.

5 Waste Management

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

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Ensure all residents at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor resident behaviour and identify requirements for further education and/or signage;
- Monitor bulk waste accumulation and assist with its removal, as required;
- Regularly engage with residents to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the private contractors to ensure efficient and effective waste service is maintained.

6 Conclusion

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

The above is achieved using:

- Thirteen 660L refuse bins, collected twice each week; and
- Nine 660L recycling bins, collected once each week.

A private contractor will collect service the Proposal utilising a rear loader waste collection vehicle. The private contractors waste collection vehicle will reverse into the site from Stockton Lane and pull up adjacent to the Bin Storage Area to service the bins and exit in forward gear.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

Figures

Figure 1: Locality Plan

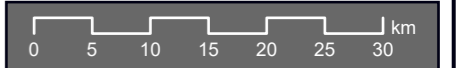
Figure 2: Bin Storage Area



LEGEND

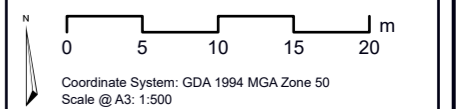
- Site Boundary
- Cadastre

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LOCALITY

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 Edge Visionary Living

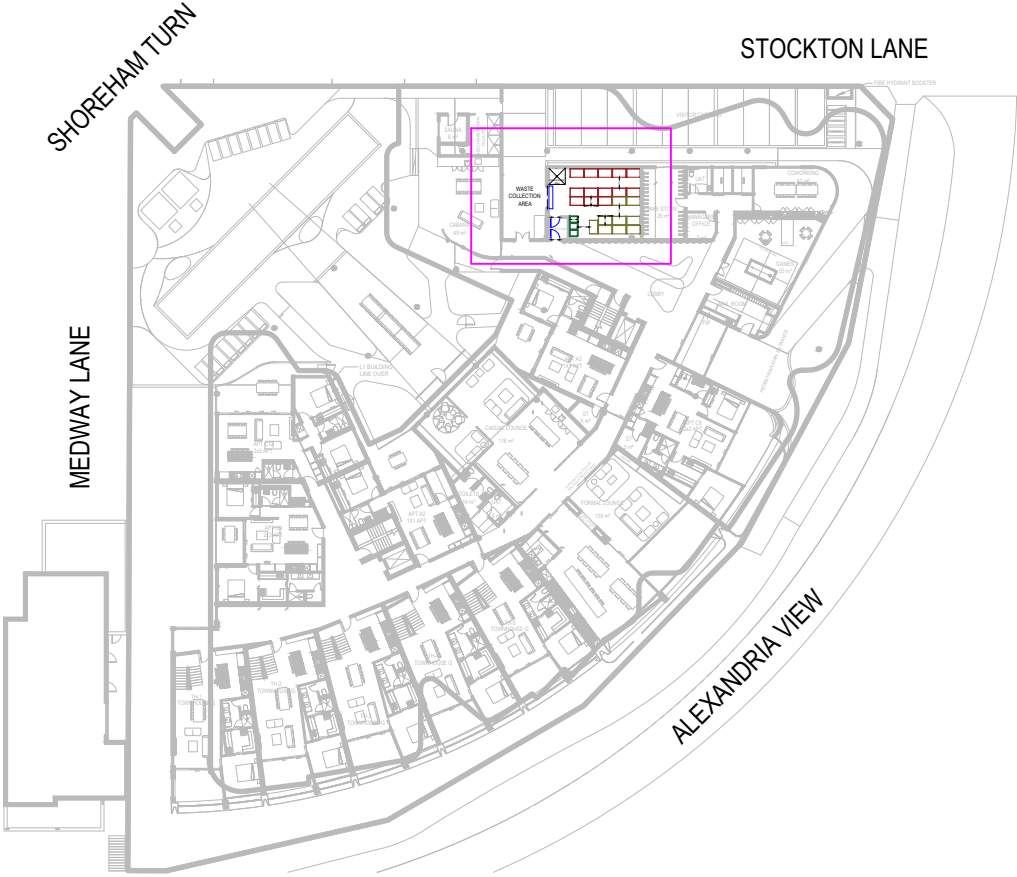


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Figure 01

Bin Storage Area



Legend:

Bin Storage Area

- 13 x 660L refuse (780mm x 1,260mm)
- 9 x 660L recycling (780mm x 1,260mm)
- 3 x 240L FOGO (730mm x 585mm)



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