

WASTE MANAGEMENT PLAN

Multi-Unit Residential Development



4 Colleran Way, Booragoon

March 2020



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CONSULTING**

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TABLE OF CONTENTS

| | | |
|----------|---|-----------|
| 1 | EXECUTIVE SUMMARY | 4 |
| 2 | INTRODUCTION..... | 6 |
| 2.1 | The Development | 6 |
| | Table 1: Number and Type of Residential Apartments | 6 |
| 2.2 | Onsite Waste Management | 8 |
| 3 | LOCAL GOVERNMENT WASTE MANAGEMENT REQUIREMENTS | 9 |
| 3.1 | Waste Management Guidelines | 9 |
| 3.2 | Waste Generation | 9 |
| 3.2.1 | Residential Apartments | 9 |
| | Table 2: Waste Generation Rates..... | 9 |
| 3.3 | Bin Stores | 9 |
| 3.4 | Bin Presentation | 9 |
| 3.5 | Waste Capacity..... | 9 |
| | Table 3: Estimated Weekly Volumes | 9 |
| 3.6 | Number of Bins..... | 9 |
| | Table 4: Required Bin Capacity – FOGO, Waste and Recycling..... | 10 |
| 3.7 | Summary | 10 |
| 4 | REQUIRED CAPACITY | 11 |
| 4.1 | Summation | 11 |
| 5 | BIN STORAGE AND MANAGEMENT | 12 |
| 5.1 | Bin Store | 12 |
| 5.2 | Bin Store Specifications | 13 |
| 5.3 | Bin Store Purpose | 13 |
| 5.4 | Bin Store Amenity..... | 13 |
| 5.5 | Bin Management | 14 |
| 5.6 | Bin Presentation and Bulk Waste Collection | 14 |
| 5.7 | Signage | 14 |
| 6 | WASTE MANAGEMENT RESPONSIBILITIES..... | 15 |
| 6.1 | Strata Management | 15 |
| 6.2 | Building Caretaker/Cleaner | 15 |
| 6.3 | Residents | 15 |
| 7 | REFERENCES | 16 |

1 EXECUTIVE SUMMARY

Kastle, on behalf of their client (Maitha Property 2 Pty Ltd) is applying to the City of Melville (the “City”) to develop a property at 4 Colleran Way, Booragoon. The development is proposed to consist of 10 residential apartments.

As part of the Development Approval process, the developer is required to submit a Waste Management Plan (WMP) for the development to the City. Kastle enlisted the services of waste management specialists Dallywater Consulting to investigate the City’s requirements in this regards and to develop this WMP.

Based on the City’s requirements, it is proposed that the following initiatives will be implemented for the waste servicing at 4 Colleran Way, Booragoon;

- Use of 240 litre receptacles for waste and FOGO material;
- Use of 360 litre bins for recycling material; and
- Weekly collections of the FOGO material and alternating fortnightly collections of the waste and recycling material.

These initiatives will result in the following requirements for receptacles;

- FOGO – two 240 litre bins collected weekly;
- Waste – six 240 litre bins collected fortnightly; and
- Recycling – three 360 litre bins collected fortnightly.

Bins will be presented to the verge for collection by the City’s collection services. A bin pad will be provided at the kerbside for the placement of up to eight bins for collection.

Review

All of the above-mentioned waste servicing arrangements will be reviewed as a matter of course on an ongoing basis to ensure that the most efficient arrangements to manage the waste and recycling material generated by all aspects of the facility are in place and are maintained.

DEFINITIONS

240: A 240 litre waste or recycling receptacle.

360: A 360 litre waste or recycling receptacle.

FOGO: Food Organics Garden Organics

FOGO Bin: A wheeled receptacle used by domestic residences within a local government municipality to deposit food and garden organic materials for emptying by the local government or a collection contractor.

Mobile Garbage Bin (MGB): A wheeled receptacle used by domestic residences and commercial premises within a local government municipality to deposit waste materials for emptying by the local government or a collection contractor.

Mobile Recycling Bin (MRB): A wheeled receptacle used by domestic residences and commercial premises within a local government municipality to deposit recycling materials for emptying by the local government or a collection contractor.

Recycling: Any material accepted by the local government's recycling collection contract.

Strata Management: For the purposes of this document, the selected legal entity charged with managing the soft services of the built structure (i.e. waste management, cleaning, landscaping, security and other similar human-sourced services) on behalf of the owners and tenants of the building.

Waste: Any recyclable and non-recyclable discarded solid, semi-solid, liquid or contained gaseous materials not accepted by the local government's recycling collection contract.

Waste Minimisation: A process to minimise the amount of waste requiring disposal via hierarchical activities such as behaviour and product modification, waste avoidance, reduction, reuse and recycling.

Total Waste Stream: The combined waste, recyclables and compostables.

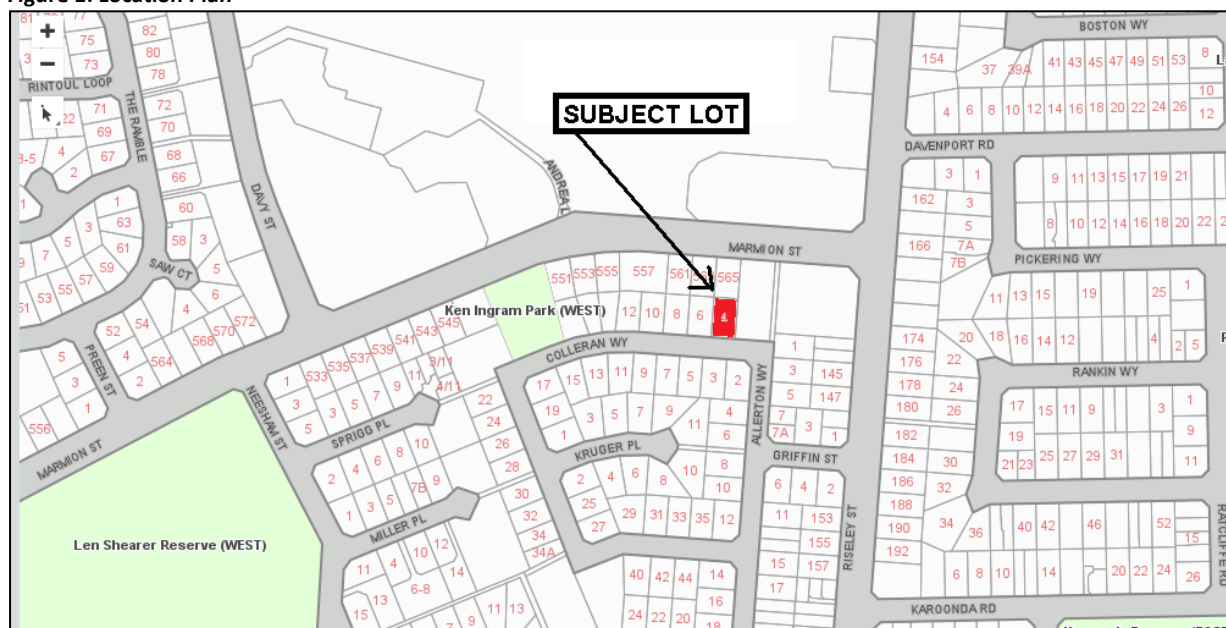
2 INTRODUCTION

2.1 The Development

Kastle, on behalf of their client (Maitha Property 2 Pty Ltd) is applying to the City of Melville (the “City”) to develop a property at 4 Colleran Way, Booragoon. The development is proposed to consist of 10 residential apartments.

As part of the Development Approval process, the developer is required to submit a Waste Management Plan (WMP) for the development to the City. Kastle enlisted the services of waste management specialists Dallywater Consulting to investigate the City’s requirements in this regards and to develop this WMP.

Figure 1: Location Plan

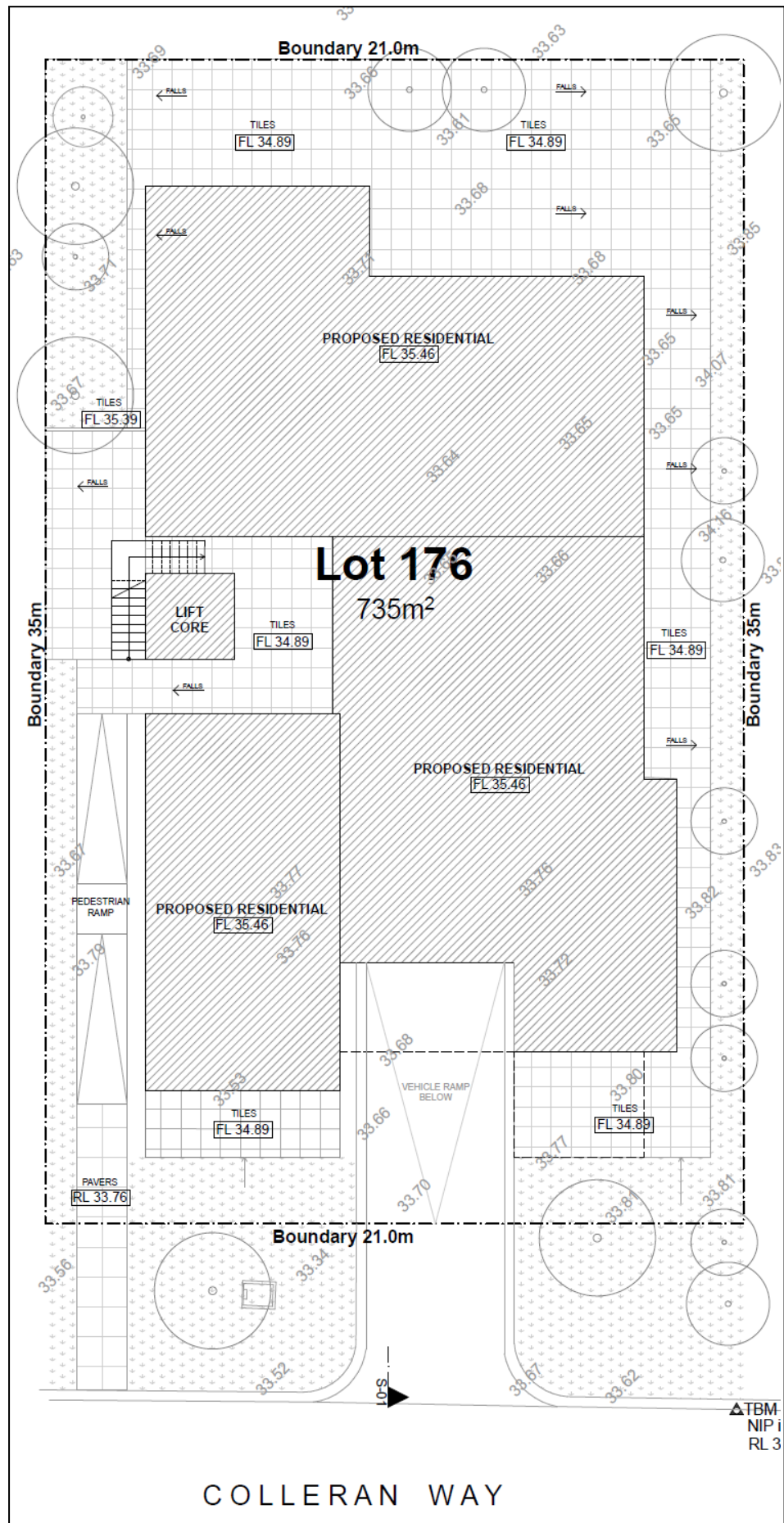


The following table details the number of residential apartments proposed for the development.

Table 1: Number and Type of Residential Apartments

| UNIT TYPE | Number |
|-------------------------------|-----------|
| RESIDENTIAL APARTMENTS | |
| 1 Bed | 3 |
| 3 Bed | 7 |
| Total | 10 |

Figure 2: Site Plan



2.2 Onsite Waste Management

The following provisions have been made for the management of FOGO, waste and recycling on the site:

- **Residential Townhouses**
 - The residents will take their FOGO, waste and recycling material to the basement and dispose of those materials into the Residential Bin Store located at the front of the basement area.
 - Residents will access the bin store via a lift to the basement.
- **Hardwaste/Bulky Items**
 - Generally, residents will be required to organise their own immediate disposal of large or bulky items not suitable for disposal to the bins. Some temporary storage for these items (5m²) prior to their collection is made available in the Bin Store with the approval of the onsite waste personnel or Strata Management.
- **Greenwaste**
 - Generally, greenwaste will be removed offsite by gardening contractors employed to manage the common garden areas around the development but some garden organics may be placed in the FOGO bins if capacity is available.
- **Waste Collection**
 - The development is required to use the City's residential waste collection service.
 - The City provides various services for the collection of waste and recycling bins.
 - The City sets the specifications for acceptable collection parameters (e.g. number of bins, frequency of collections, maximum bin weights, etc).

3 LOCAL GOVERNMENT WASTE MANAGEMENT REQUIREMENTS

3.1 Waste Management Guidelines

The following provisions have been sourced from the Coordinator Resource Recovery and Waste and the City's Local Planning Policy No. LPP 1.3 *Waste and Recyclables Collection for Multiple Dwellings, Mixed Use Developments and Non-Residential Developments*.

3.2 Waste Generation

The Coordinator Resource Recovery and Waste advised that the City's solid waste management requirements for this development are as follows:

- FOGO and waste is to be collected from 240 litre bins;
- Recycling is to be collected in 360 litre bins;
- FOGO material is collected weekly and waste and recycling is collected fortnightly on alternate weeks; and
- Waste and recycling receptacles are to be provided in sufficient numbers to cater for the waste generation requirements detailed in the following table.

3.2.1 Residential Apartments

Based on the above-mentioned guidelines and the existing collection services, the waste generation rates for the development are as follows.

Table 2: Waste Generation Rates

| Residential Apartments | Number | Weekly FOGO per Apartment (m ³) | Weekly Waste per Apartment (m ³) | Fortnightly Recycling per Apartment (m ³) |
|------------------------|--------|---|--|---|
| Apartments | 10 | 0.028 | 0.065 | 0.04 |

3.3 Bin Stores

- Bin stores should be provided adequate to house all bins.
- Stores should have sufficient area to manoeuvre the bins to ensure that residents have access at all times to part or completely empty waste and recycling bins.
- Bin stores are to be provided with a permanent water supply and drainage facility for washdown.

3.4 Bin Presentation

- The City has advised that 240 and 360 litre bins are to be used for this development.
- Those bins would be presented to the kerbside for servicing prior to the arrival of the side-arm collection vehicle.
- A flat area of sufficient size to contain all of the waste, organic and recycling bins on collection day is required to be accessible within the verge. This may be required to be in the form of a concrete bin pad.

3.5 Waste Capacity

Based on the above requirements, the weekly storage capacity required by the City for waste and recycling from the proposed development is detailed in the following tables. Note that where applicable, figures have been rounded up.

Table 3: Estimated Weekly Volumes

| No. of Apts. | FOGO Generation Rate per Unit (m ³ /week) | Waste Generation Rate per Unit (m ³ /week) | Recycling Generation Rate per Unit (m ³ /fortnight) | FOGO/ Week (m ³) | Waste/ Fortnight (m ³) | Recycling/ Fortnight (m ³) |
|--------------|--|---|--|------------------------------|------------------------------------|--|
| 10 | 0.028 | 0.065 | 0.04 | 0.65 | 0.56 | 0.8 |
| Total | | | | 0.65 | 0.56 | 0.8 |

3.6 Number of Bins

The City's preference is for the use of 240 litre receptacles for waste and FOGO and 360 litre receptacles for recycling. Based on the above volumes, the number of receptacles required to cater for the weekly FOGO and fortnightly waste and recycling volumes for this development are detailed in the following table.

Table 4: Required Bin Capacity – FOGO, Waste and Recycling

| RECEPTACLES | 240 litre FOGO Bins per Week | 240 litre Waste Bins per fortnight | 360 litre Recycling Bins per fortnight |
|--------------------|------------------------------------|--|--|
| Generation | 0.56m2 | 0.65m2 | 0.8m2 |
| No. of receptacles | 1.17 (2) | 5.42 (6) | 2.22 (3) |

3.7 Summary

Based on Table 4 above and on weekly FOGO and fortnightly waste and recycling collections, two 240 litre FOGO bins, six 240 litre waste bins and three 360 litre recycling bins would be required for the residential material.

4 REQUIRED CAPACITY

Considering the preceding tables and the space which has been provided for residential bin storage, it is evident that sufficient capacity exists for the requisite number of receptacles at the City's usual collection frequencies.

In addition, 5m² of space has been provided in the bin store to accommodate the occasional bulky item before its disposal.

4.1 Summation

It is proposed that the following initiatives will be implemented for the waste servicing at 4 Collieran Way, Booragoon;

- Use of 240 litre receptacles for waste and FOGO material;
- Use of 360 litre bins for recycling material; and
- Weekly collections of the FOGO material and fortnightly collections of the waste and recycling material.

These initiatives will result in the following requirements for receptacles;

- FOGO – two 240 litre bins collected weekly;
- Waste – six 240 litre bins collected fortnightly; and
- Recycling – three 360 litre bins collected fortnightly.

Bins will be presented to the verge for collection by the City's collection services. A bin pad will be provided at the kerbside for the placement of up to eight bins for collection.

Review

All of the above-mentioned waste servicing arrangements will be reviewed as a matter of course on an ongoing basis to ensure that the most efficient arrangements to manage the waste and recycling material generated by all aspects of the facility are in place and are maintained.

5 BIN STORAGE AND MANAGEMENT

5.1 Bin Store

There is one bin store within the facility to house the residential material. The store is located in the basement carpark immediately adjacent to the ramp leading to the street. A plan showing the location of the area is included below.

The bin store is accessible from the street and the carpark area. Based on the use of 240 and 360 litre receptacles, the store has sufficient capacity for the required number of bins.

While residents will be required to organise their own immediate disposal of larger hard or bulky items (e.g. fridges, furniture etc) and would present their bulk waste to the verge for the annual collections, there is also area within the store (5m²) to temporarily house individual items (with approval from the Management) prior to their removal or collection.

Figure 3: Residential Bin Storage

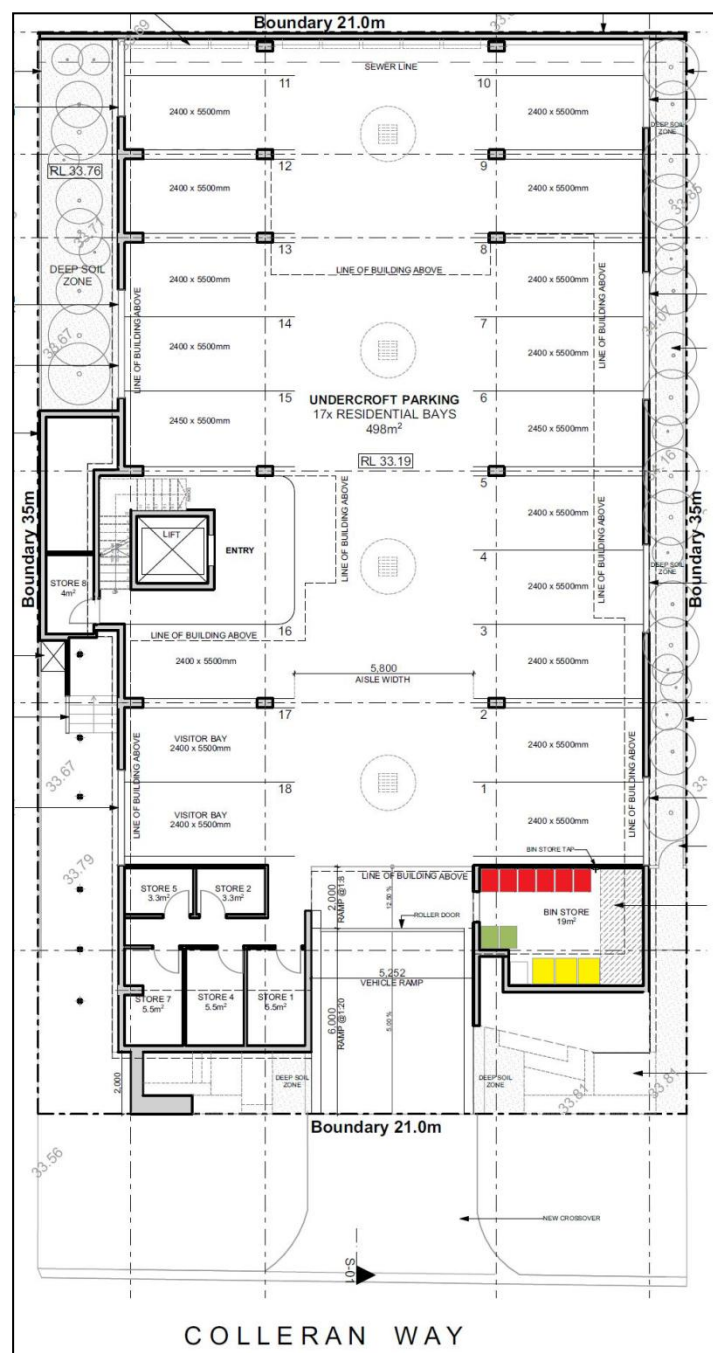
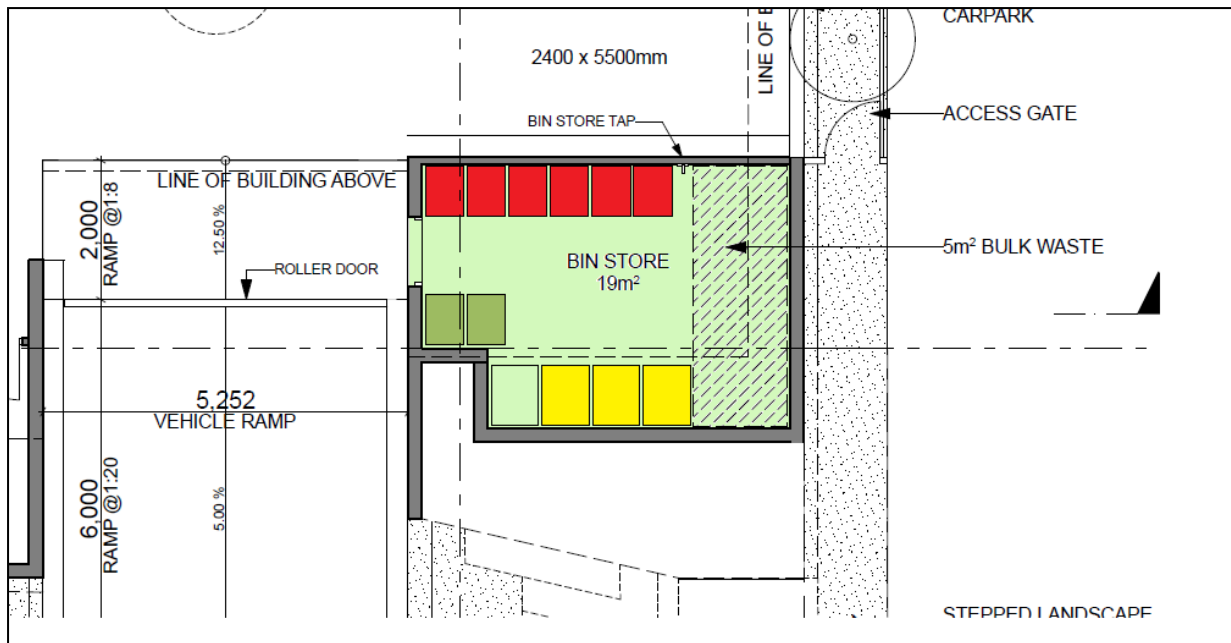


Figure 4: Bin Store Floor Plan



5.2 Bin Store Specifications

The bin compound has been designed to meet or exceed the following specifications:

- Provided with a tap and connected to an adequate supply of water. The tap is to be located in a position so that it will not be susceptible to being damaged by the bins being removed for collection;
- Constructed of brick, concrete, corrugated compressed fibre cement sheet or other material of suitable thickness;
- Having walls not less than 1.8 metres in height and having an access point of not less than 1 metre in width for resident/tenants to access the area and fitted with a self-closing gate;
- Access point for collection is to be of suitable size for the size of the bins used and the collection method proposed;
- Containing a smooth and impervious floor of not less than 75 millimetres in thickness, and provided with an adequate liquid refuse disposal system;
- Where located within a building, the bin compound is to be ventilated in accordance with Australian Standard 1668.2: *The Use of Ventilation and Air Conditioning in Buildings* (as amended);
- Conveniently located for disposal of waste, organics and recyclables by residents/tenants;
- Not readily accessible by the public; and
- To have no gradients or steps from the bin store to the bin service area.

5.3 Bin Store Purpose

The purpose of the store is as follows.

- Storage of residential waste and recycling and FOGO material;
- Storage of waste and recycling and FOGO receptacles;
- Some storage of other segregated recyclables (e.g. E-waste, printer cartridges, paper, fluorescent tubes etc); and
- Temporary storage of hard and bulky waste items awaiting collection or disposal by residents or their contractors.

5.4 Bin Store Amenity

The store has been designed so that it;

- Is well ventilated;
- Can be kept thoroughly clean and disinfected and will prevent access to vermin and limit noise egress;
- Will prevent the escape of any nuisance noise from the management of the store including operation of the compactor; and
- Is consistent with the overall aesthetics of the development.

5.5 Bin Management

The management of the bins will be coordinated by the Strata Management and written into the strata management arrangements. A cleaner or similar personnel is likely to be either employed or contracted directly by the Strata Management to manage waste throughout the facility and as such, will be made aware of the expectations regarding use of the bins and stores.

Those personnel will be responsible for all bins in the residential bin store and rotating full bins with empty ones as required. They will also be responsible for ensuring that bins are presented to the kerbside on collection days.

Unless other arrangements are made with the Strata Management, it is anticipated that residents will bring their own waste and recycling material to the store each day.

5.6 Bin Presentation and Bulk Waste Collection

Collection of bins will be undertaken at the kerbside. A flat area of sufficient size to contain all of the waste, organic and recycling bins on collection day is required to be accessible within the verge. This may be required to be in the form of a concrete bin pad.

In addition;

- The bins are to be lined up adjacent to the kerb and suitable space between for servicing.
- The location of the bin collection point is to take into account all of the following:
 - Proximity to cross-overs and intersections to ensure that there are no vehicle obstructions or line of sight impairments;
 - Location of footpaths to ensure pedestrian access along the street will not be impacted;
 - Location of existing street trees;
 - Location of any on-street public car parking bays; and
 - Location of any street signs and other street furniture.

It is noted that there is a slight gradient to the kerbside from the basement (i.e. 1 in 20). This is well inside the industry accepted maximum transfer grade of 1 in 14 for the movement of these sized bins.

5.7 Signage

Signage complying with the City's policy (or as per Sustainability Victoria's *Better Practice Guide for Waste Management and Recycling in Multi unit Developments*) will be installed to the bin store area.

6 WASTE MANAGEMENT RESPONSIBILITIES

6.1 Strata Management

The Strata Management body will have responsibility for ensuring that the residential waste management activities are appropriately conducted and that residents meet their waste management responsibilities. The strata management will allocate responsibility for all waste management activities to either a Building Caretaker or Cleaner (Waste Personnel). This position will be responsible for the management of waste throughout the complex and they will be trained in all facets of the role.

6.2 Building Caretaker/Cleaner

At a minimum, the waste personnel will undertake the following bin servicing and waste management functions;

- Regular inspection and rotation of bins in the bin store to ensure that a an empty or part empty bin is always available to residents;
- Regular cleaning of bins and bin store;
- Presentation of the bins to the kerbside for collection;
- Ensuring bins have been returned to the bin store after collection;
- Coordination of bulk and hard waste management; and
- Assistance with bin movement for operators (if required or negotiated).

In addition, the education of existing and new residents will be a priority for these staff.

In the future, with the initial assistance of waste management experts, training of staff to implement a Waste Minimisation Plan for the development may be explored. The plan could provide recommendations on, and include specific actions for;

- the segregation of specific recycling materials from the comingled stream; and
- implementation of additional waste reduction initiatives such as eWaste recycling, worm farms or composting etc.

6.3 Residents

All residents would be instructed via the Strata Management of the various waste requirements. This would include direction on the use of the bin facility and expectations of the managing body with regards to any recycling or waste diversion.

In the absence of any other individual arrangement with the waste personnel, residents (and their contractors) would be responsible for the immediate removal and disposal off-site of any waste unsuitable for placement in the bins. This would include large bulky waste and electronic items and waste from any building maintenance activities.

It is envisaged that the development of a Waste Minimisation Plan mentioned above would include the production of educational literature suitable for residents (including for inductions) and recommendations for signage relevant to the internal function of the bin store and other waste management facilities.

7 REFERENCES

- City of Melville: Local Planning Policy No. LPP 1.3 *Waste and Recyclables Collection for Multiple Dwellings, Mixed Use Developments and Non-Residential Developments (v.2020)*
- Sustainability Victoria: *Better Practice Guide for Waste Management and Recycling in Multi unit Developments (2018)*