Waste Management Plan

Lot 407 (3) Glenelg Place, Connolly

Prepared for Jowebo Investments Pty Ltd
October 2019
Project Number: TW19091
Executive Summary

Jowebo Investments Pty Ltd is seeking development approval for the proposed residential development located at Lot 407(3) Glenelg Place, Connolly (the Proposal).

To satisfy the conditions of the development application the City of Joondalup (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. Jowebo Investments Pty Ltd has engaged Talis Consultants (Talis) 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.

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Generation (L/week)</th>
<th>Bin Size (L)</th>
<th>Number of Bins</th>
<th>Collection Frequency</th>
<th>Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bin Storage Area</td>
<td></td>
</tr>
<tr>
<td>Refuse</td>
<td>3,920</td>
<td>660</td>
<td>6</td>
<td>Once each week</td>
<td>City of Joondalup</td>
</tr>
<tr>
<td>Recycling</td>
<td>980</td>
<td>660</td>
<td>3</td>
<td>Fortnightly</td>
<td>City of Joondalup</td>
</tr>
</tbody>
</table>

The City’s rear loader collection vehicle will reverse into the Proposal from Glenelg Place for servicing. Once servicing is complete the City’s rear loader rear loader collection vehicle will exit the Proposal in forward gear via Glenelg Place.

A strata manager will oversee the relevant aspects of waste management at the Proposal.
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1 Introduction

Jowebo Investments Pty Ltd is seeking development approval for the proposed residential development located at Lot 407(3) Glenelg Place, Connolly (the Proposal).

To satisfy the conditions of the development application the City of Joondalup (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. Jowebo Investments Pty Ltd has engaged Talis Consultants (Talis) to prepare this WMP to satisfy the City’s requirements.

The Proposal is bordered by commercial developments to the north, residential developments to the east, Connolly Community Centre to the south and carpark 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 all waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated quantities of waste to be generated;
- Provide suitable 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 sections show 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 to be generated is based on the number of residential apartments at the Proposal. The Proposal consists of the following:

- One Bedroom Apartments – 5; and
- Two Bedroom Apartments – 22.

2.2 Waste Generation Rates

The estimated amount of refuse and recyclables to be generated by the Proposal is based on the Western Australian Local Government Association’s (WALGA) *Multiple Dwelling Waste Management Guidelines* (2014).

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 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown Table 2-1. It is estimated that the residential apartments at the Proposal will generate 3,920L of refuse and 980L of recyclables each week.

Table 2-1: Estimated Waste Generation

<table>
<thead>
<tr>
<th>Residential Apartments</th>
<th>Number of Apartments</th>
<th>Waste Generation Rate (L/week)</th>
<th>Waste Generation (L/Week)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Refuse</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One bedroom apartments</td>
<td>5</td>
<td>80</td>
<td>400</td>
</tr>
<tr>
<td>Two bedroom apartments</td>
<td>22</td>
<td>160</td>
<td>3,520</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>3,920</td>
</tr>
<tr>
<td><strong>Recyclables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One bedroom apartments</td>
<td>5</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Two bedroom apartments</td>
<td>22</td>
<td>40</td>
<td>880</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>980</td>
</tr>
</tbody>
</table>
3 Waste Storage

To ensure that waste is managed appropriately at the Proposal, it is important to allow for sufficient space to accommodate the required quantity of bins within the Bin Storage Area. The procedures and bins to be used at the Proposal are described in the following sections.

3.1 Internal Bins

To promote positive recycling behaviour and maximise diversion from landfill, the Proposal will have two bins within each residential apartment for the separate disposal of refuse and recyclables. Waste from these internal bins will be transferred by the resident, or their authorised representative, to the Bin Storage Area and deposited into the appropriate refuse and recycling bins.

3.2 Bin Storage Area

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area shown in Figure 2.

3.2.1 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>
<thead>
<tr>
<th>Dimensions</th>
<th>240L</th>
<th>360L</th>
<th>660L</th>
<th>1,100L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth (mm)</td>
<td>730</td>
<td>848</td>
<td>780</td>
<td>1,070</td>
</tr>
<tr>
<td>Width (mm)</td>
<td>585</td>
<td>680</td>
<td>1,260</td>
<td>1,240</td>
</tr>
<tr>
<td>Height (mm)</td>
<td>1,060</td>
<td>1,100</td>
<td>1,200</td>
<td>1,300</td>
</tr>
<tr>
<td>Area (mm²)</td>
<td>427</td>
<td>577</td>
<td>983</td>
<td>1,327</td>
</tr>
</tbody>
</table>

Reference: SULO Bin Specification Data Sheets

3.2.2 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 bin sizes in Table 3-1 and assuming collection of refuse once each week and recyclables fortnightly from the Proposal.

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

- Six 660L refuse bins; and
- Three 660L recyclable bins.

<table>
<thead>
<tr>
<th>Waste Stream</th>
<th>Waste Generation (L/week)</th>
<th>Number of Bins Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refuse</td>
<td>3,920</td>
<td>17</td>
</tr>
<tr>
<td>Recycling</td>
<td>980</td>
<td>9</td>
</tr>
</tbody>
</table>
The configuration of these bins within the Bin Storage Area is shown in Figure 2. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 2 represents the maximum requirements assuming one collection each week of refuse and fortnightly collections each week of recyclables. Increased collection frequencies would reduce the required number of bins.

3.2.3 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 strata manager during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.
4 Waste Collection

The City will service the Proposal and provide the residential apartments with six 660L bins for refuse and three 660L bins for recycling.

The City will collect refuse once each week and recyclables fortnightly utilising the City’s rear loader waste collection vehicle.

The City’s rear loader waste collection vehicle will service the bins onsite, directly from the Bin Storage Area. The City’s rear loader waste collection vehicle will travel down Glenelg Place and reverse directly up to the Bin Storage Area for servicing.

During servicing there will be sufficient clearance behind the City’s rear loader waste collection vehicle to ensure there is adequate operating clearance for manoeuvring bins behind the vehicle. The City’s waste collection staff will ferry bins to and from the City’s rear loader waste collection vehicle and the Bin Storage Area during servicing. The City 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 City’s rear loader waste collection vehicle will exit in a forward motion, turning onto Glenelg Place 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.

4.1 Bulk Hard Waste and Greenwaste Collection

The City provides the following on-request bulk hard waste collection service for each household annually:

- White goods collection up to four items;
- Mattress collection for up to six items;
- 3m$^3$ skip bin or lounge suite collection service; and
- An additional skip bin at a reduced City rate.

Details of the dedicated waste services provided by the City can be found on the City’s website.

Each apartment has an allocated storage room at the Proposal and an additional area of 13m$^2$ on the ground floor has been allowed for temporary storage of bulk hard waste. This will assist with the reduction of illegal dumping of bulky wastes at the Proposal.

Removal of bulk hard waste will be monitored by the strata manager, who will liaise with residents to assist with the removal of bulk hard waste, as required. A visitor car bay could be utilised for the ad-hoc use of temporary placement of a 3m$^3$ skip bin for the collection of bulky wastes such as fridge units and mattresses, if required.

It is anticipated that greenwaste collection services will be provided by external contractors, as required. The strata manager will liaise with service providers to ensure an efficient and effective service is maintained. In addition, space for three 240L greenwaste bins has been accommodated within the Bin Storage Area for shared use by the residents, if required.
5 Waste Management

A strata manager will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Areas;
- Cleaning of bins and Bin Storage Areas, 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 hard waste and greenwaste accumulation and assist residents 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 City and any appointed 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 and a 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:

- Six 660L refuse bins, collected once each week; and
- Three 660L recycling bins, collected fortnightly.

The City’s rear loader collection vehicle will reverse into the Proposal from Glenelg Place for servicing. Once servicing is complete the City’s rear loader rear loader collection vehicle will exit the Proposal in forward gear via Glenelg Place.

A strata manager will oversee the relevant aspects of waste management at the Proposal.
Figures

Figure 1: Locality Plan

Figure 2: Bin Storage Area
Legend:

Bin Storage Area

- 6 x 660L refuse (780mm x 1260mm)
- 3 x 660L recycling (780mm x 1260mm)