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1. Land Use Details

The property is known as 40 Upper Heidelberg Road Ivanhoe and is located on the eastside of Upper Heidelberg Road north of Heidelberg Rd Ivanhoe.

The proposed development is a multi-level development comprising basement car parking area, ground floor commercial spaces and seven levels containing 111 apartments comprising 5 No. one bedroom apartments, 96 No. two bedroom apartments and 10 No. three bedroom apartments.

The waste holding areas for both the residential apartments and the commercial areas will be located on the basement level with access from the car park area.

2. Waste Generation

The quantities of waste generated for the commercial and residential areas of these premises are based on Sustainability Victoria's (SV) *"Guide to Best Practice for Waste Management in Multi – Unit Developments"*.

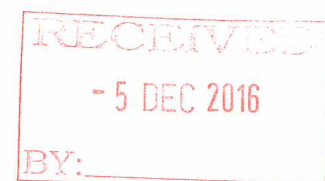
Waste quantities for the development are calculated on:

Residential.

- **Garbage.**
 - 80 litres per week for one bedroom apartments
 - 80 litres per week for two bedroom apartments
 - 80 litres per week for three bedroom apartments
- **Recycling**
 - 40 litres per week for one bedroom apartments
 - 40 litres per week for two bedroom apartments
 - 40 litres per week for three bedroom apartments

Commercial

- **Garbage.**
 - Retail (Restaurant)*
660 litres per day per 100m² floor area
 - Offices*
10 litres per day per 100m² floor area
- **Recycling**
 - Retail (Restaurant)*
200 litres per day per 100m² of floor area.
 - Offices*
10 litres per day per 100m² of floor area.



Based on the above rates the estimated waste generated is:

Residential

Garbage	Total litres per week	Comment
5 @ 80 litres 96 @ 80 litres 10 @ 80 litres	8880 litres	Weekly collection would require: 14 No 660 litre bins or 8 No 1100 litre bins
Recycling		
5 @ 40 litres 96 @ 40 litres 10 @ 40 litres	4440 litres	Weekly collection would require: 7 No 660 litre bin or 4 No 1100 litre bin

Commercial

Garbage	Total litres per week	Comment
<i>Restaurant</i> 275/100 @ 660 litres	1815 litres/day	Daily collection would require: 9 No 240 litre bins or 3 No 660 litre bins or 2 No 1100 litre bins
<i>Offices</i> 450/100 @ 10 litres	450 litres/week	Weekly collection would require: 2 No 240 litre bins or 1 No 660 litre bin or 1 No 1100 litre bin
Recycling		
<i>Restaurant</i> 275/100 @ 200 litres	550 litres/day	Daily collection would require: 2 No 240 litre bins or 1 No 660 litre bin or 1 No 1100 litre bin
<i>Offices</i> 450/100 @ 10 litres	315 litres/week	Weekly collection would require: 2 No 240 litre bins or 1 No 660 litre bin or 1 No 11000 litre bin

3. Waste System

The proposed residential system will be based on the use of **1100 litre bins** for garbage and **1100 litre bins** for recycling and both collected by a professional waste collection **Contractor**.

The proposed commercial system will be based on the use of **1100 litre bins** for garbage and **1100 litre bins** for recycling and both collected by a professional waste collection **Contractor**.

The development will have a dual garbage/recycling system, such as the elephants foot system with entry points on each floor. Information regarding the e-diverter is shown in **Appendix 1(d)**.

Additionally a 1100 litre bin will be provided for green waste generated by residential and commercial tenants.

The proposed system is based on:

- Residential garbage being collected **once per week**.
- Residential recycling being collected **once per week**.
- Commercial garbage being collected **daily**.
- Commercial recycling being collected **daily**.
- The consistent use of a single bin size of **1100 litres**.
- Green waste bin being collected on an as needs basis.
- Minimising the number of garbage and recycling bins requiring manoeuvring from the storage enclosure for collection each week. However it needs to be noted that spaces for additional bins for commercial premises have been provided to allow flexibility if future uses require additional bin capacity.
- Recycling bins being readily distinguishable from garbage bins.
- Optimising the available capacity of the proposed bins.
- Acknowledging the issues associated with storage and collection of bins directly from Upper Heidelberg Road.
- The available space within the waste holding area.
- Use of a mini rear loader collection vehicle to ensure accessibility to the site and manoeuvrability within the site for collection of bins.

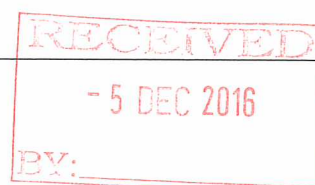
a) Garbage

It is proposed that all garbage for disposal will be taken by residents to a dual garbage/recycling chute with entry on each level located adjacent to the lift.

b) Recycling

It is proposed that all recycling for disposal will be taken by residents to a dual recycling/garbage chute with entry on each level located adjacent to the lift.

Additionally residents will be given MURFE style bins (**Appendix 1 (e)** for details) in each apartment to carry all recyclables to the recycling chute. This will ensure that recyclables are placed loose in the chute to minimise recyclables in plastic bags which may be regarded as contamination and rejected at the sorting



facilities. Residents will also be given a brochure and education program relating to the waste and recycling system operating in the complex. Information about the waste management will also be included in the apartment user guide.

Garbage and Recycling from the commercial premises will be taken by the respective tenants to separate bins within the waste holding area. The respective bins will be colour coded and signed.

Loose cardboard will be flattened and collected as part of the recycling collection arrangements.

c) **Hard Waste**

An area has been set aside within the waste holding area for hard waste in accordance with Council requirements.

It is proposed that the Owners Corporation will liaise with contractors for Hard Waste collections.

d) **Garden Organics.**

Maintenance of all garden / landscaped areas will be the responsibility of the Owners Corporation. Maintenance arrangements will include the removal of the garden organics by the maintenance contractor.

e) **Green waste.**

To provide for any green waste generated by the residential or commercial tenants a green waste bin has also been provided within the waste holding area.

4. Bin quantity, size and colour

a) **Garbage - Residential Premises**

Based on the above figures it is proposed that there will be 8 No 1100 litre garbage bins.

The bins will be provided by the Contractor and will be standard green garbage bins



Garbage - Commercial Premises***Restaurant***

Based on the above figures it is proposed that there will be 2 No 1100 litre garbage bins. The bins will be provided by the Contractor and will be standard green garbage bins

Offices

Based on the above figures it is proposed that there will be 1 No 1100 litre garbage bin. The bin will be provided by the Contractor and will be standard green garbage bins

b) Recycling - Residential

Based on the above figures it is proposed that there will be 4 No 1100 recycling bins collected. The bin will be provided by the Contractor and will be standard blue recycling bin, to readily distinguish the recycling bin from garbage bins.

**Recycling - Commercial Premises.*****Restaurant***

Based on the above figures it is proposed that there will be 1 No 1100 litre recycling bin collected. The bin will be provided by the Contractor and will be standard blue recycling bin, to readily distinguish the recycling bin from garbage bins.

Offices

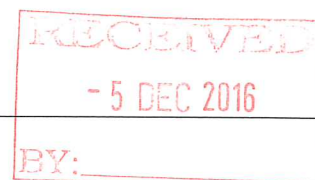
Based on the above figures it is proposed that there will be 1 No 1100 litre recycling bin collected. The bin will be provided by the Contractor and will be standard blue recycling bin, to readily distinguish the recycling bin from garbage

c) Bin details

Bin details of the 1100 litre bins are shown in **Appendix 1(c)**.

5. Collection frequency and times.**a) Residential**

Garbage and Recycling collection will be undertaken **once per week**.



b) Commercial Premises.

Restaurant

Garbage and Recycling collection will be undertaken **daily**. Note. Collection frequency may be reviewed depending on occupancy and opening times of the premises.

Offices

Garbage and Recycling collection will be undertaken **weekly**. Note. Collection frequency may be reviewed depending on occupancy and opening times of the premises.

c) Collection times

Collection times will be in accordance with EPA collection guidelines.

6. Waste holding areas.

The proposed waste holding areas will be located on the basement floor level as detailed on plan in **Appendix 1**.

Residents and the commercial premises operators can access the waste holding area via the basement level car park.

Specific details of the waste holding areas are as follows:

- Room size
The floor area is approximately 4.58 metres wide and 9.5 metres deep.
- Bin layout.
The layout of the bins will be based on bins being arranged in cluster relating to the purpose of each type of bin

The layout will allow sufficient room for access to the bins and for the manoeuvring of the bins.

Additionally the layout provides for a number of additional 1100 litres bins. This provision of additional space will provide flexibility if the proposed uses or days of operation of the commercial areas change and require additional bin capacity.

- Ventilation and noise reduction
The waste holding area is located within the basement of the building. This will ensure any odour and noise do not impact on residents.
- Management
The Owners Corporation will be responsible for all matters relating to the waste holding areas, including taking bins out for collection and back to waste holding areas after collection and rotating bins under the dual chute system, as required.

7. Scaled waste management drawings

Please refer to **Appendix 1a) and b)**

8. Waste Collection

The waste collection (garbage and recycling) will be undertaken by a **private contractor**.

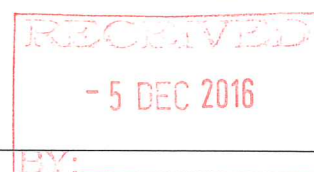
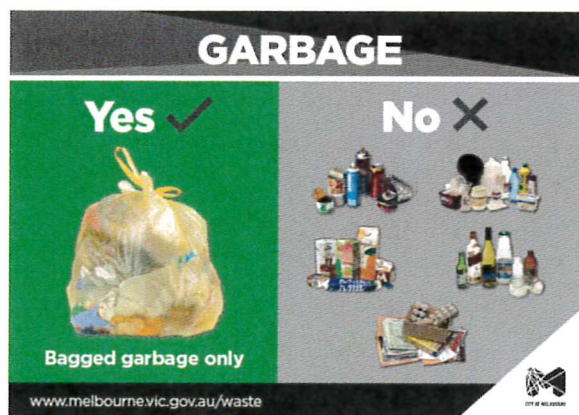
This option has the advantages of:

- The collection vehicles will be mini rear loaders such as the 'Bantam' by Garwood International or the 'waste wise mini' by Waste Wise Environmental (**Refer Appendix 1(f)**). These vehicles can access the development and particularly the area near the access to the waste holding areas.
- This smaller vehicle can enter from Upper Heidelberg Road, travel in a forward direction to the car park. and collect the bins. After collection the vehicle will then manoeuvre and travel in a forward direction along and exit via Upper Heidelberg Road.
- The contractor will collect the bins from the waste holding area and return the bins to the waste holding area after emptying.
- The collection will take place totally within the basement area adjacent to the bin holding area.

9. Signage

The waste holding area and the bins themselves will have appropriate signage identifying the type of bins and also provide information to assist residents in the correct use of the respective bins.

Signage will generally be as shown below:



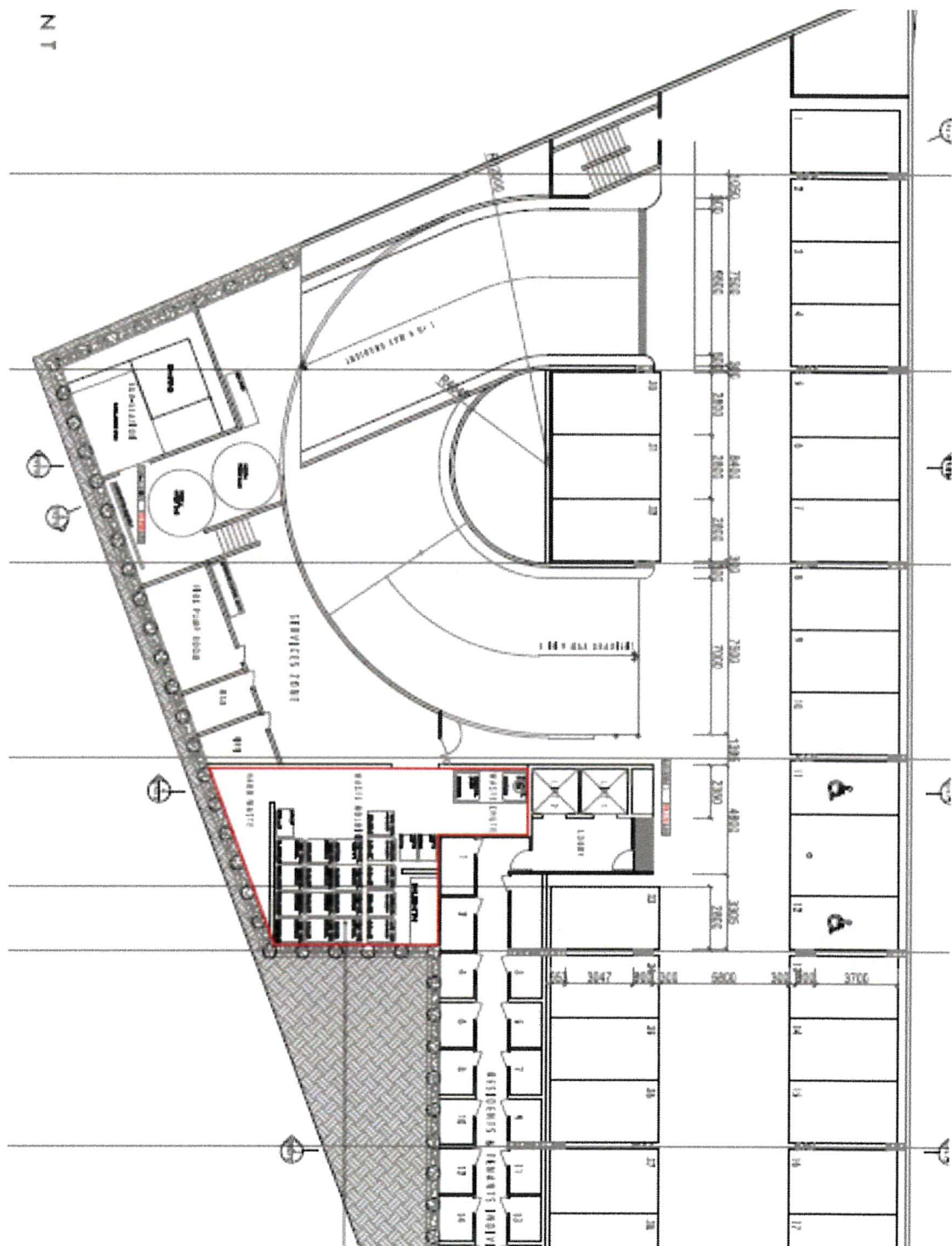
10. Owners Corporation Responsibilities

The responsibilities of the Owners Corporation in ensuring the implementation and ongoing requirements of the Waste Management Plan for this development include:

- Provide the Murfe style recycling bin for each apartment together with a brochure/educational material to assist with residents having a full understanding of the waste minimisation and recycling requirements.
- Rotate bins under the dual chute system in the bin holding area as required.
- Review the number of bins provided and collection frequency for commercial areas as required.
- Maintaining the cleanliness of the waste holding areas and bins.
- Removal of hard waste from the waste holding area within the development.
- Removal of any garden organics or waste from the common areas within the development.

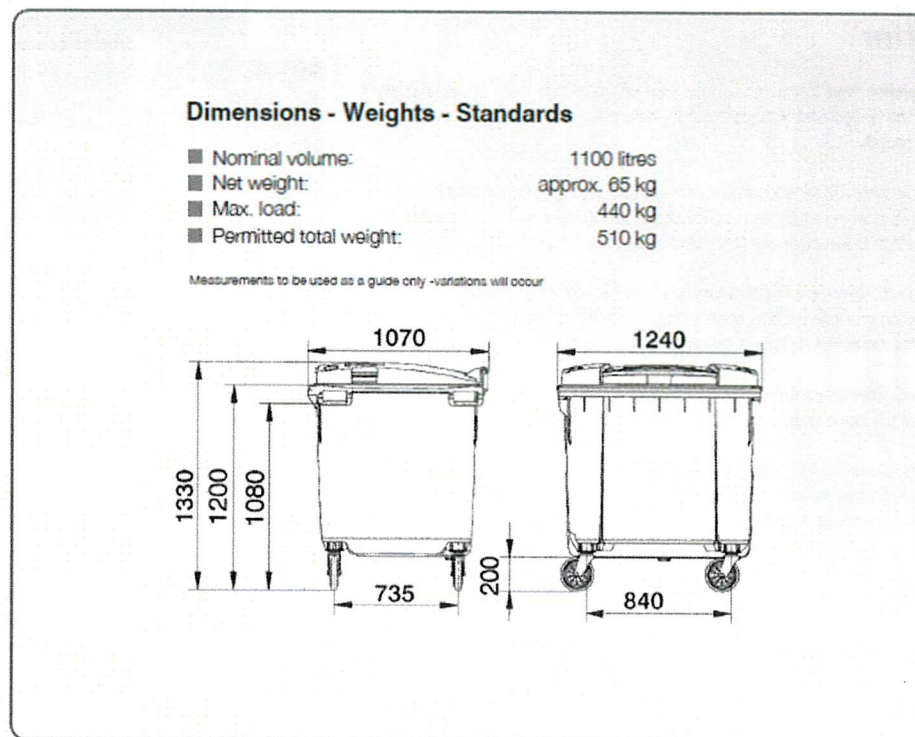
Appendix 1

a) Basement Car Park Layout showing waste holding area location.



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c) Bin details.



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d) E-diverter

ēDiverter'

Diversion systems have long been used in multi unit dwellings in the United Kingdom, Europe and the United States as a simple-to-use system encouraging apartment residents to recycle.

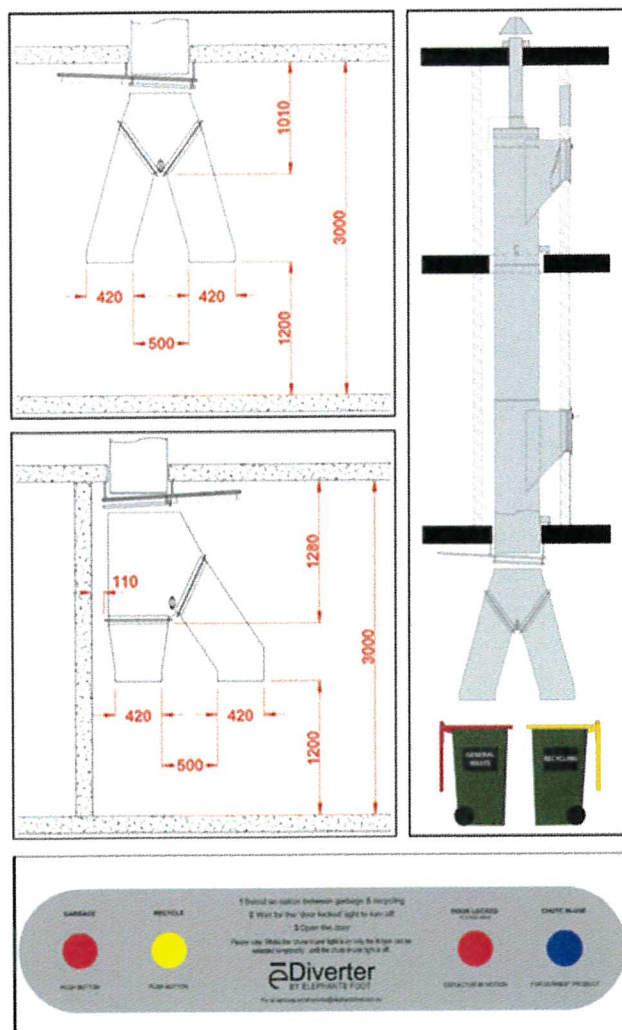
The Elephants Foot eDiverter operates with a single garbage chute manufactured in either galvanised steel or recycled LDPE plastic. Each building level has a disposal chute door which is electronically connected to an easy to operate LED control panel.

The resident selects a recycling or waste function. This moves a mechanism that guides recycling or waste into the correct collection bin located in the building's waste room, than the resident will deposit the correct material into the chute.

If residents on other levels select the same disposal function, they are able to deposit their waste at the same time; i.e. waste system – all doors will open.

If another product is chosen during the same operation, the tenant will be required to wait for the diverter to move from product A to product B. A wait time of three to five seconds is the maximum time delay.

The Elephants Foot eDiverter system can be combined with multiple bin carousel or linear system & compactor to assist in managing waste room collections.



e) MURFE style Recycling bins



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f) Vehicle example.



Vehicle Dimensions

