

# PROPOSED CHILD CARE CENTRE (71 PLACES)

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STRATA LOT 2 (#1) LYELL GROVE, WOODVALE

## WASTE MANAGEMENT PLAN



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# 1 WASTE GENERATION

In the absence of specific waste generation data for Child Care Centres in the WALGA *Commercial and Industrial Waste Management Plan Guidelines* (1), waste generation has been determined using the *City of Melbourne's 2015 Waste Generation Rates* data (2) as this includes Child Care Centres and appears to be the most up-to-date data available in Australia. The rates and assessed waste generation for both general waste and co-mingled recyclable waste is shown in Table 1 below.

City of Melbourne Garbage Generation				
Land Use	Rate	Unit	litres/ week	
Child Care Centre	350 l per 100 m <sup>2</sup> floor area/ week	576	2,016	

City of Melbourne Recycling Generation				
Land Use	Rate	Unit	litres/ week	
Child Care Centre	350 l per 100 m <sup>2</sup> floor area/ week	576	2,016	

Table 1 – General and Recyclable waste generation

Child Care Centres can vary the mix between general and co-mingled recyclables through management and operational practices (e.g., use cloth nappies instead of disposable and encourage parents to provide food and snacks without packaging). The typical waste profile for a Child Care Centre is shown in Figure 1 below.

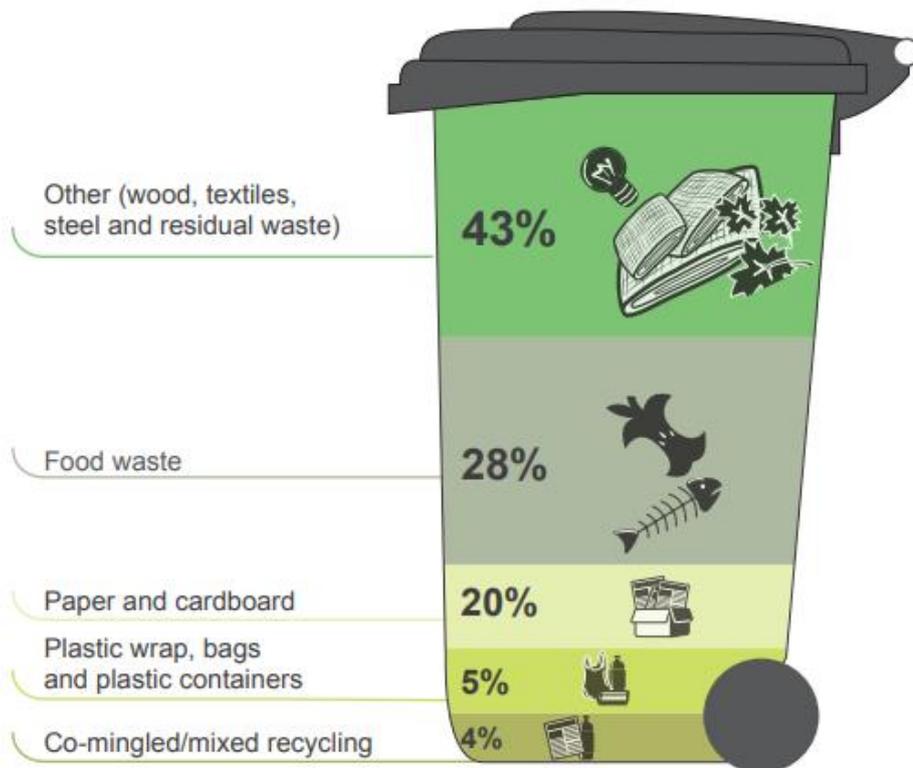


Figure 1 – Typical waste profile of a Child Care Centre (% weight of waste generated) NSW EPA (3)

## 2 GENERAL

It is proposed to demolish the existing commercial premises on the east side of Lot 1 (Strata Lot 2) and construct a compliant Child Care Centre for 71 children over two levels with parking for 22 vehicles. The commercial building on the west side (Strata Lot 1) currently contains a dental practice and will be retained, as shown in the Development Drawings included in **Appendix A** and Photograph 1 and Figure 2 below.



Photograph 1 – Existing site (aerial photograph dated 13 Nov 2021)

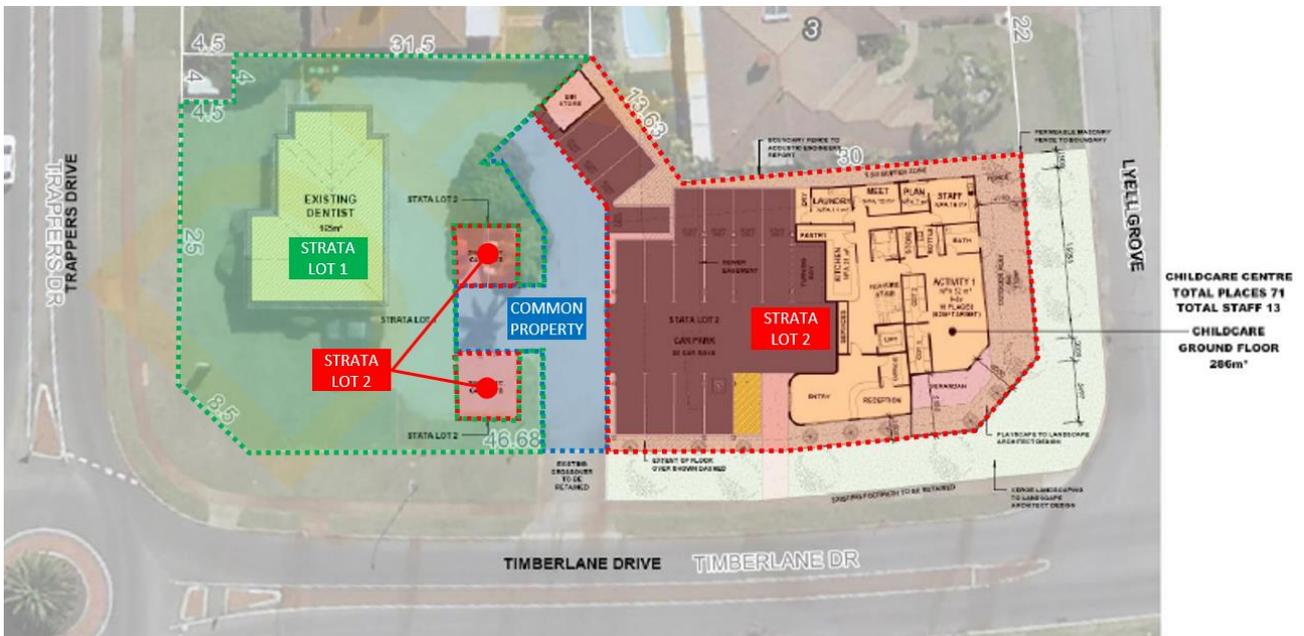


Figure 2 – Proposed Site and Ground Floor Plan showing Strata and Common Property Areas

The assessed waste collection vehicle arrival and departure routes and swept paths to and within the proposed development and the location of the access and ground floor parking and bin store area is shown in Figure 3 on the following page.



Figure 3 – Swept path of 8 m Waste Collection Vehicle and bin store location and service area

### 3 NUMBER AND TYPE OF BINS AND FREQUENCY OF COLLECTION

An assessment of the required number of MGBs for the quantity of waste assessed in Section 1, i.e., 2,016 litres per week general and 2,016 litres per week recyclable, has indicated that this will result in a requirement for 8 MGBs if collected weekly or 4 MGBs if collected twice a week (e.g., Tue & Fri) as shown in Table 2 below.

BIN SIZES AND NUMBERS REQUIRED (OPTION 1)											
Waste Type	Lt/ week	Freq/ wk	120	140	240	360	660	1100	1500	3000	4500
General	2,016	1	17	15	9	6	4	2	2	1	1
Recyclable	2,016	1	17	15	9	6	4	2	2	1	1
TOTAL			↑								

BIN SIZES AND NUMBERS REQUIRED (OPTION 2)											
Waste Type	Lt/ week	Freq/ wk	120	140	240	360	660	1100	1500	3000	4500
General	2,016	2	9	8	5	3	2	1	1	1	1
Recyclable	2,016	2	9	8	5	3	2	1	1	1	1
TOTAL			↑								

Table 2 – Determination of number of MGBs based on frequency of 1 or 2 collections per week

The recommendation is for collection twice a week, i.e., Option 2 (2 x 660L General & 2 x 660L Recyclable).

The dimensions of the 660L MGB are shown in Figure 4 below. The required storage and presentation areas for four 660L MGBs are assessed in Sections 5 and 6.

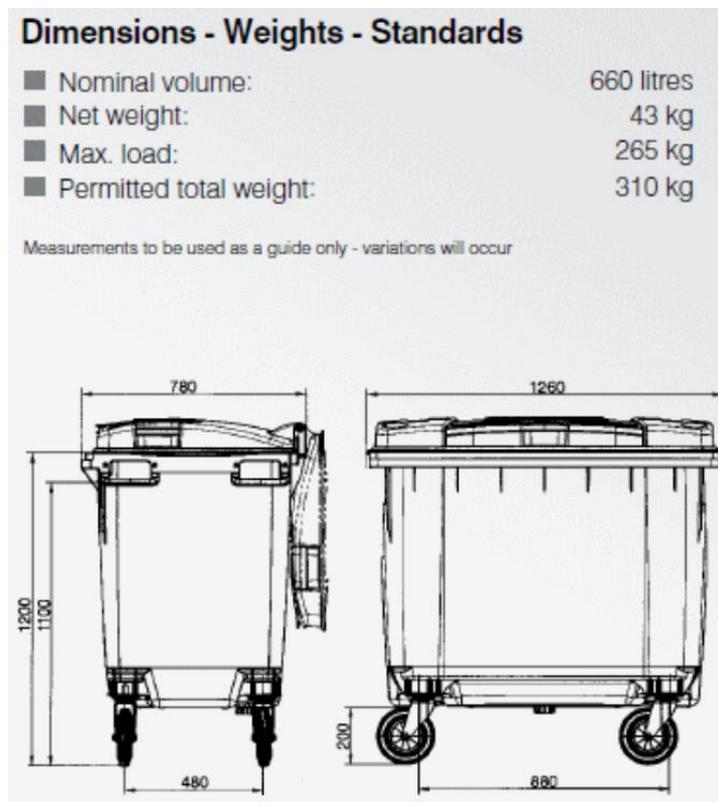


Figure 4 – Typical dimensions of a 660L MGB

## 4 FOOD WASTE

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Due to the proposed kitchen and associated food preparation, it may be necessary to on very hot days or weekends to provide a freezer of sufficient size to allow food waste to be frozen between collection days.

The amount of food waste can be reduced using worm farms and/ or composting, a common feature of Child Care Centres as part of the reduce-reuse-recycle education initiative.

The City of Joondalup provides guidance for the disposal of different types of waste on its [website](#). Waste reduction advice can be found on the City of Stirling's [website](#).

Consideration should also be given to food waste collection consistent with FOGO services in the [Waste Avoidance and Resource Recovery Strategy 2030](#).

## 5 SPACE FOR STORAGE AND PRESENTATION (SERVICING) OF BINS

The City of Joondalup's Health Local law 1999 requires commercial developments to provide a bin enclosure.

As indicated in Figure 4 in **Section 3**, the 660 L MGBs are approximately 1.26 m wide, 0.78 m deep and 1.3 m high.

The Development Drawing shows the provision of a Bin Store capable of accommodating up to six (6) x 660 L MGBs, as shown in the extract provided as Figure 5 below. Door/ gates comply with City of Joondalup requirement of an opening of at least 2.7 m with a preference for gates swinging outwards (4).

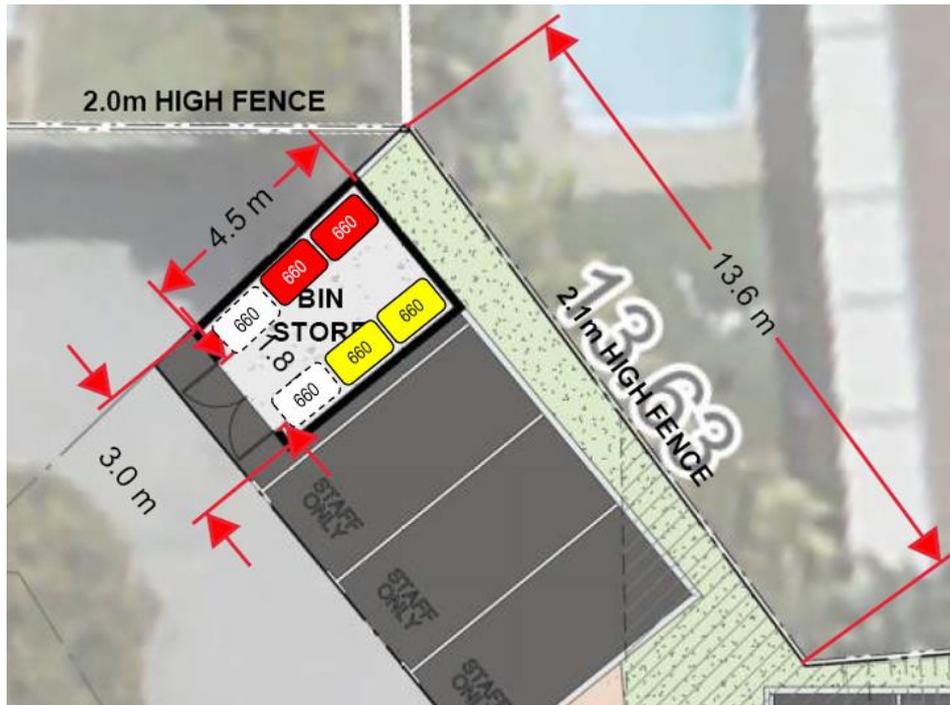


Figure 5 – Bin store showing space for up to six 660 litre MGBs and bin store dimensions (only 4 x 660L MGBs required)

## 6 ACCESS

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The applicant has indicated that waste and recyclable collection will be contracted to use a small Waste Collection Vehicle, similar to that approved by the City of Nedlands, as shown in an extract from its *Local Planning Policy - Waste Management* <sup>(5)</sup>, provided as Figure 6 below. The City of Joondalup has proposals to develop similar guidance and procedures in its *Waste Management Plan 2016-2021* <sup>(6)</sup> but has not published this to date.

### (a) Standard Truck Dimensions

Parameter	Vehicle Dimension (m)
Overall length	8.5
Overall width	3.0
Overall height (travel)	3.5
Height when lifting bins	3.8

### (b) Smaller Truck Dimensions

Parameter	Vehicle Dimension (m)
Overall length	7.5
Overall width	3.0
Overall height (travel)	2.8
Height when lifting bins	2.8

*Note: Small waste truck specifications are based on approximately 3 tonne truck.  
WMP requires to demonstrate all waste streams (Waste and Recycling) collection can service the development in one single collection.  
This vehicle can service bins only ranging from 120L -660L.*

Figure 6 – Typical dimensions of rear loading waste collection vehicles

The 660 L MGBs will be manoeuvred between the bin store and the waste collection vehicle driver on collection days. The waste collection vehicle will enter the common property area from Timberlane Dr in a forward direction, turn right into the child care centre car park and then reverse left towards the bin area to service the bins and then exit the car park in a forward direction, as shown in Figure 3 on page 4.

## **7 WASTE FACILITIES, MANAGEMENT & OPERATION**

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### **MANOEUVERING MGBS**

The development has been designed to ensure that MGBs are not required to be moved up or down steep ramps (i.e., > 1 in 14) and avoid steps and other hazards.

### **WASHING BINS AND WASTE STORAGE AREA**

Impermeable concrete floors (min 100 mm thick 20 MPa) graded at 1% to an industrial floor waste (including a charged 'water-trap' connected to sewer or an approved septic system), with a hose cock to enable bins and the enclosure to be washed out. 100 mm floor waste gully to waste outlet. Both hot and cold water will be available. A two metre long restraining bar made of 50 mm galvanised iron pipe (or similar) which stands 200 mm above the base will be fitted to the floor of the enclosure 150 mm clear of the rear wall.

### **BIN STORE WALLS AND CEILINGS**

All internal walls in bin stores will be cement rendered (solid and impervious) to enable easy cleaning. Ceilings will be finished with a smooth faced, non-absorbent material capable of being easily cleaned. Walls and ceilings will be finished in similar materials to the main building.

### **VENTILATION AND ODOUR**

The design of bin stores will provide for adequate separate ventilation with a system that complies with Australian Standard *AS/ NZS 1668*. The ventilation outlet is not near windows or intake vents associated with other ventilation systems.

### **DOORS**

All doors and corridors on the transfer route are designed for the largest, i.e., 660 L, MGBs and will be self-closing to eliminate access by vermin.

### **LIGHTING**

Bin stores will be provided with artificial lighting, sensor or switch controlled both internal/ external.

### **NOISE**

Noise is to be minimised to prevent disruption to occupants or neighbours.

### **FULLY ENCLOSED**

The bin stores will be fully enclosed and only be accessible by staff and the waste service provider.

### **AESTHETICS**

The bin store will be consistent with the overall aesthetics of the development.

### **SIGNS**

Signs complying with the WALGA Guidelines will be installed to the bin store area.

## **8 BIN MANAGEMENT**

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Facility Management staff or other nominated personnel/contractors will manage waste throughout the facility and as such, will be aware of the expectations regarding use of the bins and store.

Those staff will be responsible for ensuring the correct use of the bins and also that the bins are accessible (or presented) on collection days.

## 9 BIN PRESENTATION AND COLLECTION

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Collection of bins will be as per the following arrangements:

- Onsite waste collection will be undertaken by a private contractor using a maximum 7.5 m long truck.
- The vehicle will enter from Timberlane Dr in a forward direction, turn right into the child care centre car park and then reverse left towards the bin area for Strata Lot 1 in the far northwest corner of the carpark to service the bins and then exit the car park in a forward direction, as shown in Figure 3 on page 4.
- A swept path assessment has been conducted for a larger 8.0 m Waste Collection vehicle (Figure 3 on page 4.). The analysis indicates that the vehicle would be able to perform the required manoeuvre adequately.
- Waste collection will occur outside the drop-off/pick-up times when only staff cars are parked, or alternatively will be undertaken outside of business hours.
- Unless otherwise negotiated, the bins will be retrieved from the bin store by the collection vehicle operators, emptied and then returned to the store.

## 10 FINDINGS AND RECOMMENDATIONS

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This Waste Management Plan has determined there is a need for four 660L MGB's to be provided (2 x general waste and 2 x recyclables) and that these require servicing twice a week.

It is recommended that a freezer of sufficient size is included in the kitchen to allow for food waste to be frozen between collection days during hot periods. Consideration should also be given to food waste collection consistent with FOGO services in the Waste Avoidance and Resource Recovery Strategy 2030.

This waste management plan is based on 50% general waste/ 50% recyclable waste generation. It is recommended that opportunities to reduce the amount of general waste are considered using the resources described in **Section 4**.

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## REFERENCES

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1. **The Western Australian Local Government Association.** *Commercial and Industrial Waste Management Plan Guidelines*. Perth : The Western Australian Local Government Association, 2015. p. 57. A resource for Western Australian Local Government, developers, building managers and business owners..
2. **City of Melbourne.** Waste Generation Rates. *City of Melbourne*. [Online] January 2015. <https://www.melbourne.vic.gov.au/SiteCollectionDocuments/waste-generation-rates-jan-2015.pdf>.
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4. **City of Joondalup.** Commercial bin enclosure. *City of Joondalup*. [Online] City of Joondalup. <https://www.joondalup.wa.gov.au/kb/resident/commercial-bin-enclosure>.
5. **City of Nedlands.** *Local Planning Policy - Waste Management*. City of Nedlands. Nedlands : City of Nedlands, 17 Apr 2020. p. 16, Local Planning Policy.
6. **City of Joondalup.** *Waste Management Plan 2016 - 2021*. Joondalup : City of Joondalup, Feb 2016. p. 76.