

**Appendix 10:  
Waste Management Plan**

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# **WASTE MANAGEMENT PLAN**

**Multi-Unit Residential Development**

**8 Parker Street,  
South Perth**

**July 2020**



**Prepared by Dallywater Consulting  
For Colliere Architects**

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## 1 EXECUTIVE SUMMARY

Colliere Architects (on behalf of its clients) is applying to the City of South Perth (the “City”) to develop a property at 8 Parker Street, South Perth. The development is proposed to consist of 26 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. Colliere Architects employed the services of Dallywater Consulting to investigate the City’s requirements in this regards and to develop this WMP.

The proponent has provided sufficient space in two bin stores to accommodate one waste and one recycling bin per apartment, with those bins being stored within designated areas inside each apartment and brought to the bin stores for collection prior to collection day.

It is proposed that the following initiatives will be implemented for the waste servicing at 8 Parker Street, South Perth.

- Use of 660 litre waste and recycling bins for North Building;
- Use of 240 MGBs and 360 MRBs for South Building;
- Weekly collection of waste and recycling material from within the property using a rear-load collection vehicle.

This will result in the following requirements for receptacles;

- Waste – nine 660s (North Building) and three 240s (South Building) collected weekly; and
- Recycling – five 660s (North Building) and one 360 (South Building) collected weekly.

### Review

The above-mentioned 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.

**660:** A 660 litre waste or recycling receptacle.

**Building 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.

**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.

**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.

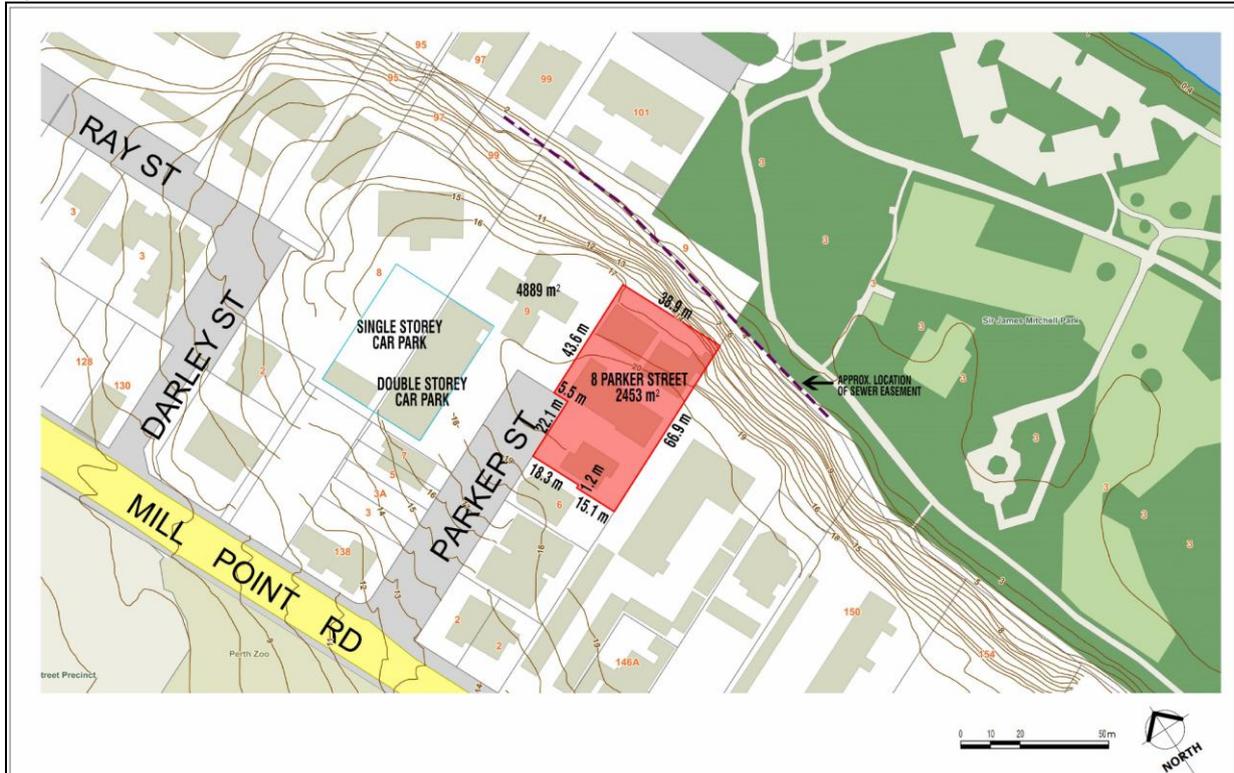
## 2 INTRODUCTION

### 2.1 The Development

Colliere Architects (on behalf of its client) is applying to the City of South Perth (the “City”) to develop a property at 8 Parker Street, South Perth. The development is proposed to consist of 26 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. Colliere Architects employed the services of 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 numbers (and types) of residential apartments proposed for the development.

**Table 1: Number and Type of Residential Apartments and Commercial Tenancies**

UNIT TYPE	Number
<b>Residential Units – North Building</b>	
2 Bed	2
3 Bed	18
4 Bed	3
<b>Total Residential Units</b>	<b>23</b>
<b>Residential Apartments – South Building</b>	
3 Bed	3
<b>Total Commercial Units</b>	<b>3</b>

A site plan showing the configuration of the two buildings is included on the following page.



### 3 LOCAL GOVERNMENT WASTE MANAGEMENT REQUIREMENTS

#### 3.1 Waste Management Guidelines

The following provisions have been sourced from the City's Waste and Fleet Coordinator. The City uses its *Waste Guidelines for New Developments February 2017 Version 4* as the basis for waste generation calculations for Multi Unit mixed use developments (MUDs).

#### 3.2 Waste Generation

The Waste and Fleet Coordinator has advised that the City's requirements for the provision of waste storage for this type of development are as follows:

- 660 litre receptacles are the preferred receptacle size for waste and recycling material;
- Alternative bin sizes can be considered, subject to negotiation with the City;
- Waste from 660s can be collected two times per week and recycling can be collected weekly; and
- Waste and recycling receptacles are to be provided in sufficient numbers to cater for the waste generation requirements detailed in the following table.

Based on the above-mentioned guidelines, the waste generation rates for the residential component of the development are as detailed in the following table.

**Table 2: City of South Perth Residential Waste Generation Formula**

Residential Apartments	Number	Weekly Waste (m3)	Weekly Recycling (m3)
2 Bed Apartments	2	0.16	0.12
3 Bed Apartments	21	0.24	0.12
4 Bed Apartments	3	0.24	0.12

#### 3.3 Bin Stores

- Bin stores should be provided adequate to house all bins prior to collection.
- Bin stores are to be provided with a permanent water supply and drainage facility for washdown.
- Internal stores should be adequately lit and ventilated and fitted with self-closing personnel doors.

#### 3.4 Bin Presentation

- Ideally, bins are to be emptied within the site; and
- Access should be provided for a rear-lift vehicle to an area adjacent to the bin store.

#### 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 - Residential**

	No. of Units	Waste Generation Rate (m3/week)	Recycling Generation Rate (m3/week)	Waste/Week (m3)	Recycling/Week (m3)
<b>Residential Apartments – North Building</b>					
2 Bed Apartments	2	0.16	0.12	4.32	2.16
3 & 4 Bed Apartments	21	0.24	0.12	0.72	0.36
<b>Total</b>	<b>23</b>			<b>5.36</b>	<b>2.76</b>
<b>Residential Apartments – South Building</b>					
3 Bed Apartments	3	0.24	0.12	0.72	0.36
<b>Total</b>	<b>3</b>			<b>0.72</b>	<b>0.36</b>

#### 3.6 Number of Bins

The table on the following page demonstrates the number of bins required to accommodate the weekly material generated by the residences.

**Table 4: Estimated Weekly Volumes - Residential**

<b>Residential Apartments – North Building</b>	<b>No. of Units</b>	<b>Waste/week m<sup>3</sup></b>	<b>Recycling/Week m<sup>3</sup></b>
<b>Apartments</b>	<b>23</b>	<b>5.36</b>	<b>2.76</b>
660 litre bins		8.12	4.18
No. of Bins		9	5
<b>Residential Apartments – South Building</b>	<b>No. of Units</b>	<b>Waste/week m<sup>3</sup></b>	<b>Recycling/Week m<sup>3</sup></b>
<b>Apartments</b>	<b>3</b>	<b>0.72</b>	<b>0.36</b>
660 litre bins		1.09 (2)	0.55 (1)
240 MGBs and 360 MRBs		3	1

### 3.7 Summary

Based on the above and on weekly waste and recycling collections, North Building will require nine 660 litre waste bins and five 660 litre recycling bins.

For the South Building, if 660 litre bins were used, just over one waste bin would be required and while one recycling bin would be required, only around half its capacity would be used per week. Alternatively, if 240 litre MGBs were used for the waste and 360 litre MRBs for the recycling, three 240s and one 360 would be required for the weekly material. These bins can be serviced by the same vehicle servicing the 660s.

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.

## **4 BIN STORAGE AND MANAGEMENT**

### **4.1 Bin Compounds/Stores**

There are two bin stores within the facility. They are located on the Ground Floor of each building. A plan showing the location of the stores is included on the following page.

The stores are accessible from the Service Lobby in the North Building and the Common Lobby in the South Building. Based on the proposed number of receptacles, both stores have sufficient capacity for the required number of bins.

Some additional capacity is also available in the stores for additional (smaller) receptacles for waste minimisation purposes (e.g. phone or electrical equipment or bric a brac recycling).

The North Building store has a roller door opening to the internal driveway to allow the movement of bins from within the store to the rear of the collection vehicle for emptying. South Building bins would be taken across to the Building 1 store for collection.

### **4.2 Bin Stores Specifications**

The bin stores have been designed to meet or exceed the following specifications:

- Self-closing doors to be fitted;
- Construction to be of brick, concrete, corrugated compressed fibre cement sheet or other suitable impervious material;
- Walls to be not less than 1.5 metres in height with an internal access way of not less than 1 metre in width;
- A tap connected to an adequate supply of water and a floor waste connected to the public sewer to be installed within each compound;
- The floors to be smooth and impervious and evenly graded to the floor waste; and
- There is to be easy access to allow for the removal of the receptacles.

### **4.3 Bin Stores Purpose**

The purposes of the two stores are as follows.

- Storage of residential waste and recycling;
- Storage of waste and recycling receptacles; and
- Some storage of segregated recyclables (e.g. E-waste, printer cartridges, paper, fluorescent tubes etc).

### **4.4 Amenity**

The stores have been designed so that they;

- are well ventilated;
- can be kept thoroughly clean and disinfected;
- will prevent access to vermin and limit noise egress; and
- are consistent with the overall aesthetics of the development.

### **4.5 Bin Management**

The management of the bin stores throughout the complex will be coordinated by the Building or Strata Management and written into the strata management arrangements. A grounds person, cleaner or similar person is likely to be either employed or contracted directly by the Building Management and they will manage waste throughout the facility (including the stores and collections) and as such, will be made aware of the expectations regarding use of the bins and stores.

Those personnel will be responsible for ensuring that the stores are accessible to residents and the collectors on collection days.

Unless other arrangements are made with the Building Management, residents will bring their own waste and recycling material to the stores for collection day. The waste person would transfer the South Building bins to the North Building store for collection, and then return those bins to the South Building.

Figure 3: Residential Bin Stores (Location)

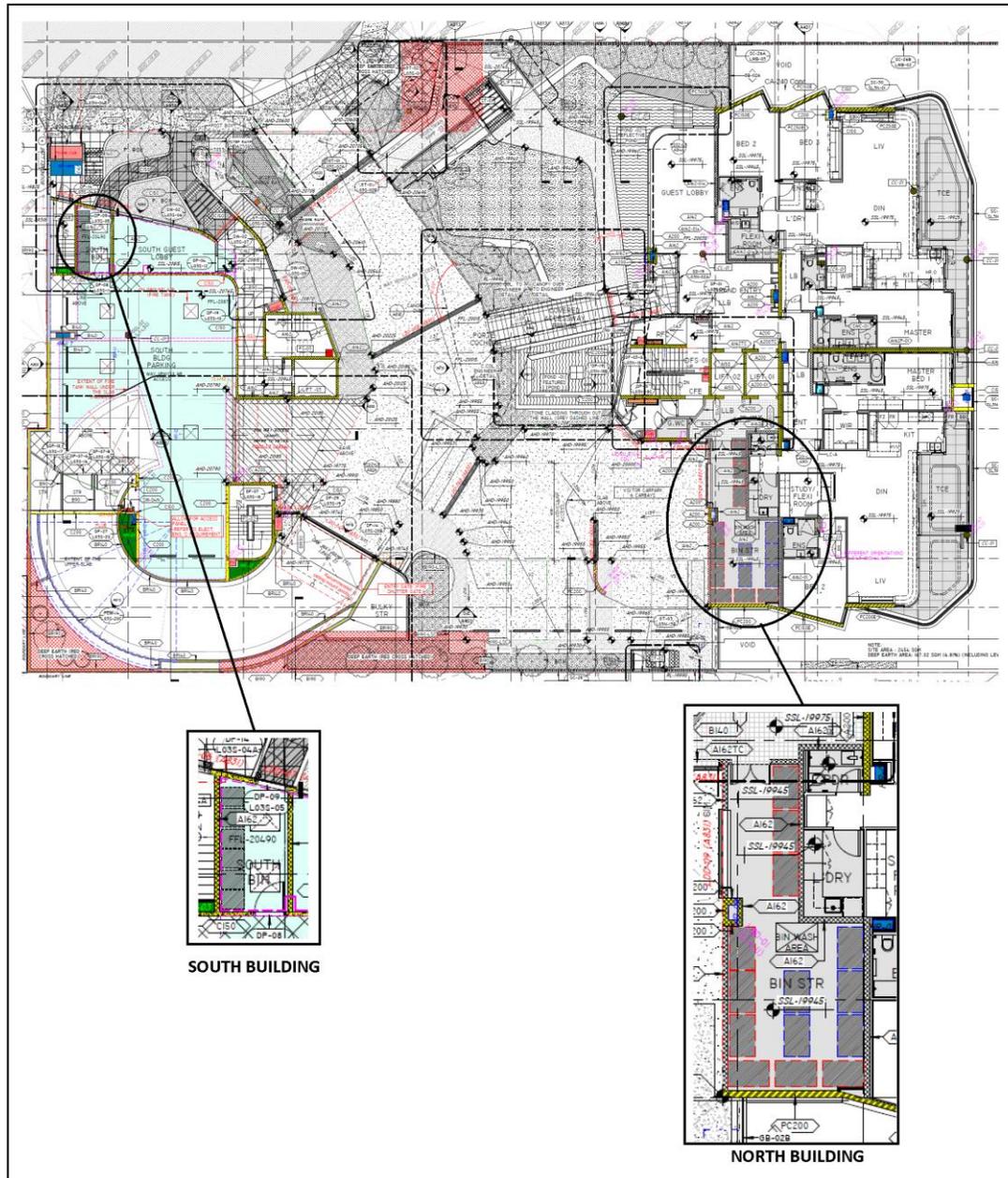
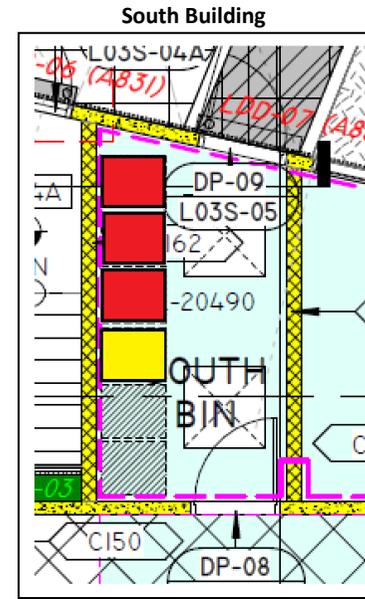
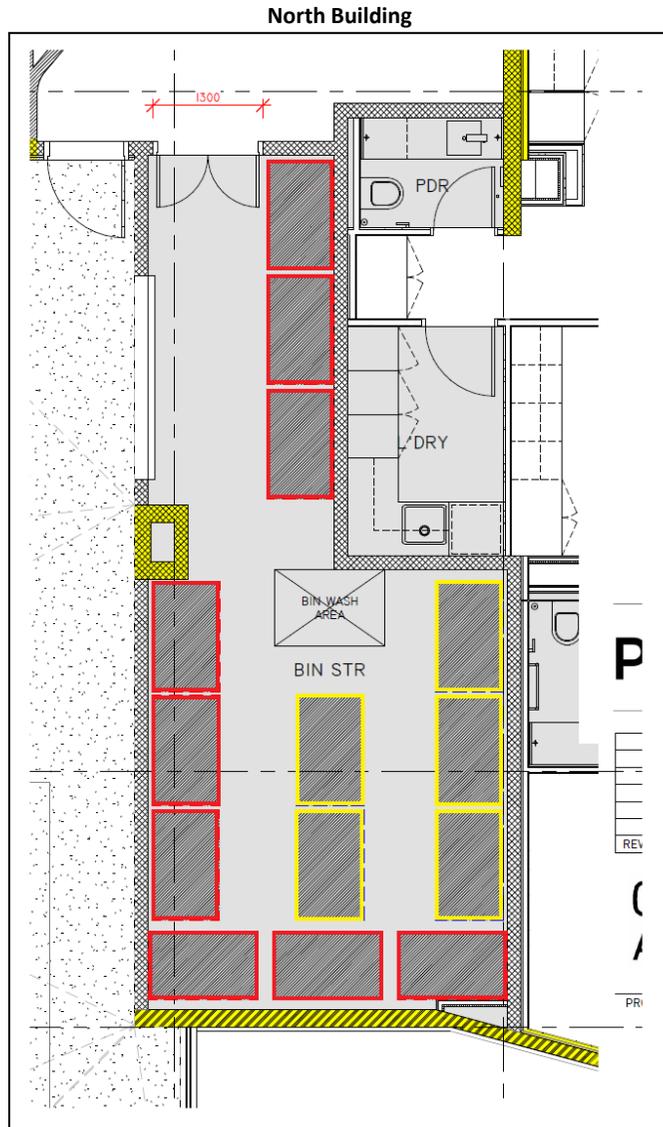


Figure 4: Residential Bin Stores - Layouts



#### **4.6 Bin Presentation and Collection**

Collection of bins will be as per the following arrangements:

- The collection vehicles will drive into the property and reverse back to the North Building store (see Figure 3).
- Operators will access the bins from the North Building bin store via the front roller door.
- Bins will be wheeled to and emptied into the rear of the collection vehicle and then returned to the bin store.
- South Building bins will be brought to the North Building store by onsite staff prior to collection, and then returned to the store once emptied.

#### **4.7 Signage**

Signage complying with the City's Guidelines will be installed to the both bin store areas.

## **5 WASTE MANAGEMENT RESPONSIBILITIES**

### **5.1 Building Owners/Strata Management**

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

### **5.2 Building Caretaker/Cleaner (Waste Person)**

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

- Regular cleaning of bins and bin stores;
- Ensure access to the stores for collectors on collection days;
- Bring South Building bins to the North Building store for collection;
- Ensure bins have been returned to the bin stores after collection; and
- Assistance with bin movement for operators and residents (if required or negotiated).

In addition, the education of incoming residents will be a priority for these staff.

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

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

### **5.3 Residents**

All residents would be instructed via the Building Management of the various waste requirements. This would include direction on the use of the bin facilities 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 various bin stores and waste management facilities.

## 6 REFERENCES

- City of South Perth: *Waste Guidelines for New Developments February 2017 Version 2*