

Prepared for The Trustee for Quill Way Unit Trust



CONTENTS

CONTENTS 1

LIST OF TABLES	1
LIST OF FIGURES	2
REPORT DETAILS	3
1 Introduction	4
1.1 Background	4
1.2 Existing Situation	4
1.3 Proposed Land Uses	5
2 Waste Services and Specifications	7
2.1 Waste and Recycling Collection Services	7
2.2 Bin Enclosure	7
2.2.1 Bin Enclosure Construction Considerations	10
3 Waste Generation and Management	11
3.1 General and Recycling Streams	11
3.2 Other Streams	11
3.3 Waste Streams Estimates	11
3.4 Bin Requirements	13
4 Transfer of Waste and Recycling	17
4.1 Collection of Wastes	17
4.1.1 Provision of Service Vehicle	17
5 Waste Reduction and Management Strategy	20
5.1 Provision of Information	20
5.2 Engagement	20
6 Conclusion	21

LIST OF TABLES

Table 1 Land Uses	5
Table 2 Waste Collection Schedule - Residential	7
Table 3 Waste Generation Rates	11
Table 4 Weekly Waste	12
Table 5 Bin Requirements for Proposed Site	13

LIST OF FIGURES

Figure 1 Site Location _____ 4

Figure 2 Site Plan _____ 6

Figure 3 Bin Storage Area - Lot 1 _____ 7

Figure 4 Bin Storage Area - Lot 2 _____ 8

Figure 5 Bin Storage Area - Lot 3 & 4 _____ 8

Figure 6 Bin Storage Area - Lot 4 _____ 9

Figure 7 Proposed Bin Layout – Lot 2 _____ 14

Figure 8 Proposed Bin Layout – Lot 3 & Lot 4(Office) _____ 15

Figure 9 Proposed Bin Layout – Lot 4 (Mixed Use) _____ 16

Figure 10 Waste Truck Swept Path – 10m (Lot 1- Hotel) _____ 17

Figure 11 Waste Truck Swept Path – 10m (Lot 2- Social Hub) _____ 18

Figure 12 Waste Truck Swept Path – 10m (Lot 3 & 4- Office) _____ 19

Figure 13 Waste Truck Swept Path – 10m (Lot 4- Mixed Use) _____ 19

REPORT DETAILS

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PTG Consulting Office Details

Location	Perth, WA
Address	Level 4, 167 St Georges Terrace, Perth WA 6000
Telephone	+61 8 6188 4500
Email	Ray.cook@ptgconsulting.com.au
Web	www.ptgconsulting.com.au

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1 INTRODUCTION

1.1 Background

PTG Consulting Pty Ltd (PTG) has been commissioned by The Trustee for Quill Way Unit Trust ('the Client') to prepare a Waste Management Plan (WMP) in support of a proposed mixed-use development comprising of hotel and commercial tenancies located at 81 Quill Way, Henderson ('the Site').

The scope of this WMP is limited to the estimation of general waste and recycling volumes generated by the development and includes recommendations for the appropriate collection, storage, handling and transportation of waste and recycling, in accordance with the requirements outlined in the City of Cockburn Waste Management Policy LPP 1.14, City of Vincent Waste Guidelines for new developments, WALGA's Multi Dwelling Waste Management Plan Guidelines and WALGA's Commercial and Industrial Waste Management Plan Guidelines.

Estimations of generated volumes of liquid and bulk rubbish are not provided. However, two bulk waste and green waste collections per year are available to the residents. Specialist contractors will need to be commissioned by the commercial tenants for the collection and disposal of liquid waste and bulk rubbish, as necessary.

1.2 Existing Situation

The Site, shown in **Figure 1**, is located at 81 Quill Way, Henderson within the City of Cockburn.

Figure 1 Site Location



Source: Metromap

1.3 Proposed Land Uses

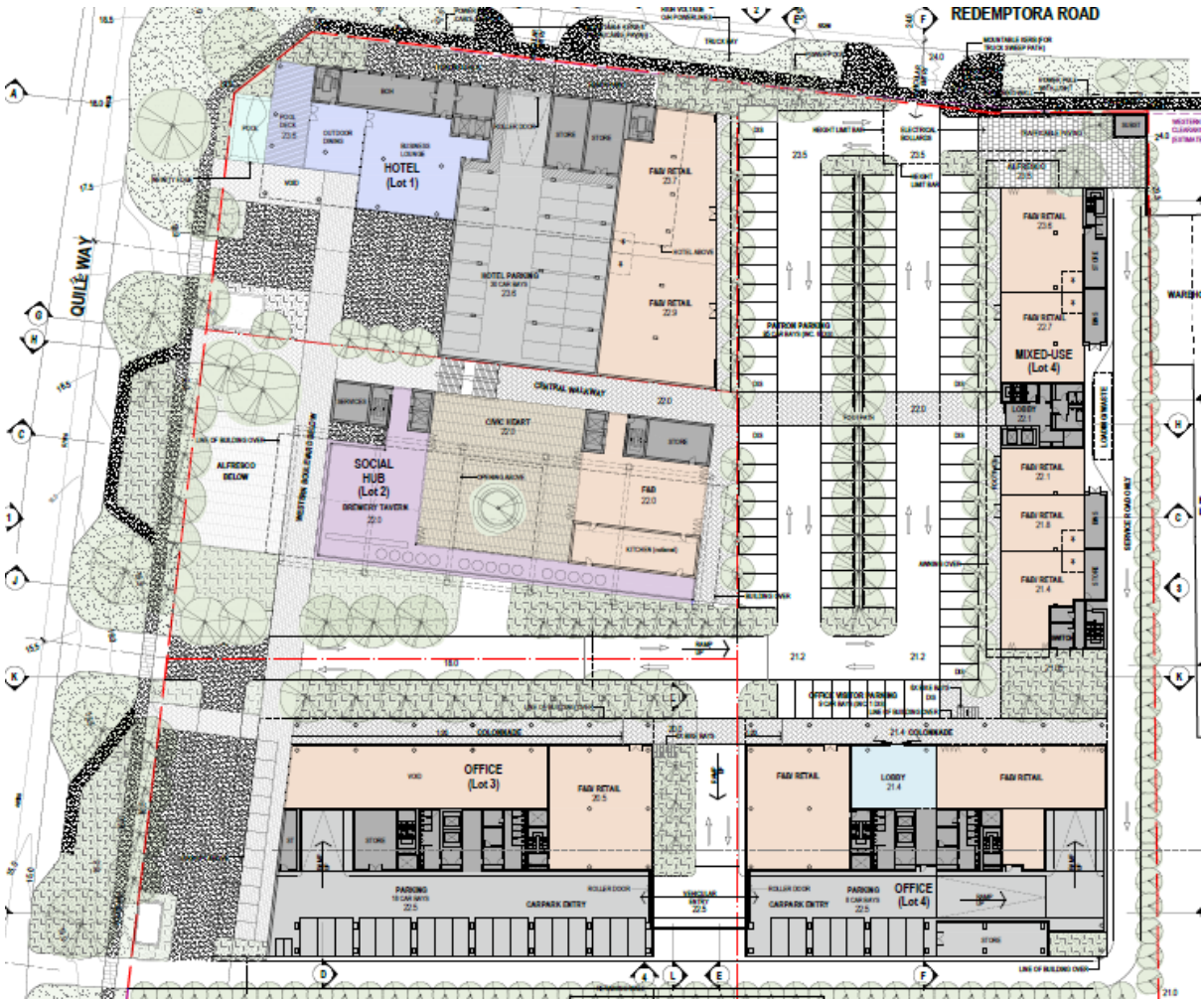
The proposal is for a mixed-use development comprising of hotel, retail, tavern, office, gym/fitness and medical centre. The specific land uses and its corresponding yield is detailed in **Table 1**.

The layout of the proposed hotel development and the commercial building at the Site is shown below in **Figure 2** with the complete set of plans provided in Appendix A.

Table 1 Land Uses

Lots	Land Use	Yield
Lot 1 (Hotel)	Hotel	161 rooms
	Retail / F&B	557 sqm NLA
Lot 2 (Social Hub)	Tavern	1,035 sqm NLA
	Gym/Fitness	836 sqm NLA
	Conference Room	453 sqm NLA
	Retail / F&B	635 sqm NLA
Lot 3 (Office)	Office	10,073 sqm NLA
	Retail / F&B	674 sqm NLA
Lot 4 (Mixed Use)	Medical	1,155 sqm NLA
	Office	1,125 sqm NLA
	Retail / F&B	635 sqm NLA
Lot 4 (Office)	Office	10,333 sqm NLA
	Retail / F&B	536 sqm NLA

Figure 2 Site Plan



Source: Pennock Architects

2 WASTE SERVICES AND SPECIFICATIONS

2.1 Waste and Recycling Collection Services

The proposed development will engage a private waste contractor to manage the waste collection as it will require more larger bin sizes and more frequent collection as indicated in **Figure 1**.

The collection of general and recycling waste is to be arranged to occur during off-peak hours to minimise disruption to traffic operations as well as minimise any impacts to tenants.

Table 2 Waste Collection Schedule - Residential

Lots	Waste Stream (Bin Size)	Frequency
Lot 1 (Hotel)	General Waste (1700L Bins)	weekly
Lot 2 (Social Hub) & Lot 4 (Mixed Use)	Recycling (1700L Bins)	twice weekly
Lot 3 (Office)	General Waste (1700L Bins)	weekly
Lot 4 (Office)	Recycling (1700L Bins)	weekly

2.2 Bin Enclosure

The Mobile Garbage Bin (MGB) storage for the commercial wastes will be in a bin enclosure located in each lots as illustrated in **Figure 3** to **Figure 6**.

Figure 3 Bin Storage Area - Lot 1

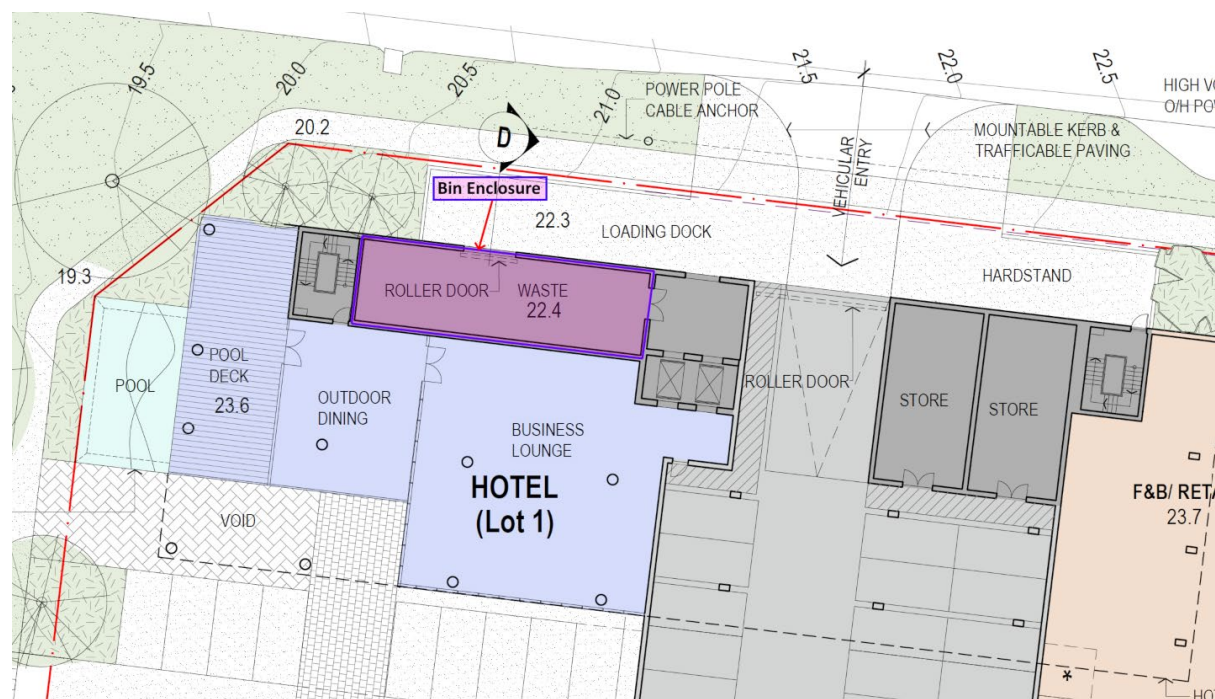


Figure 4 Bin Storage Area - Lot 2

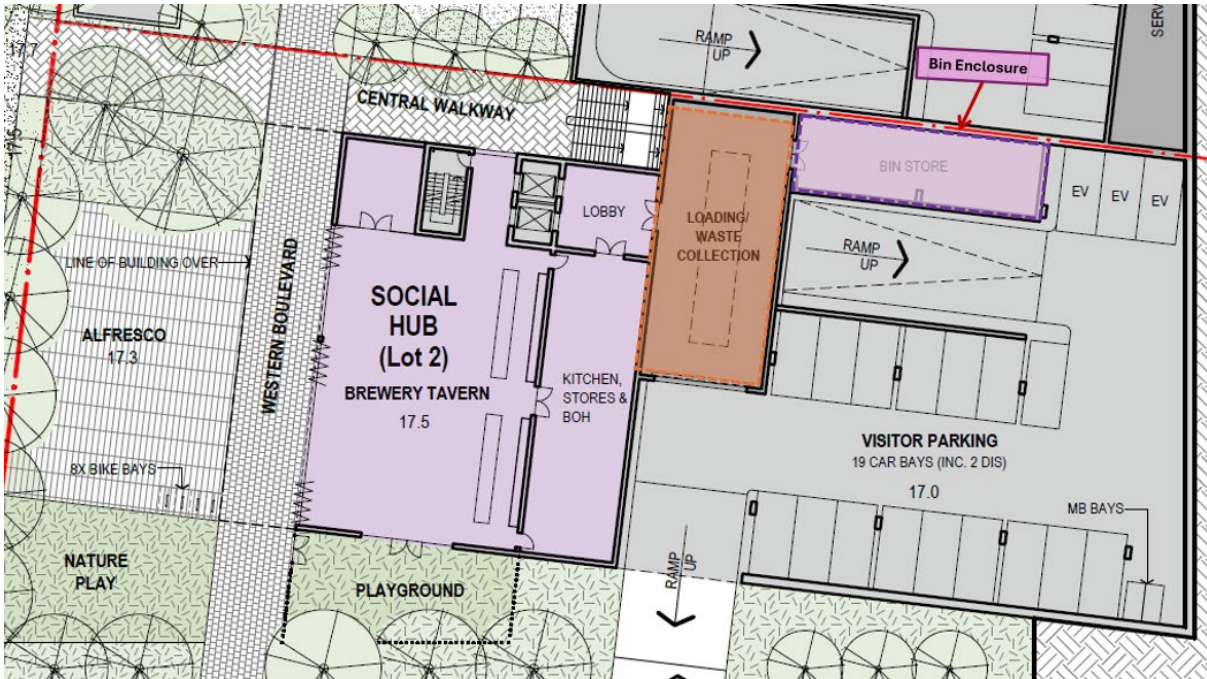


Figure 5 Bin Storage Area - Lot 3 & 4



Figure 6 Bin Storage Area - Lot 4



2.2.1 Bin Enclosure Construction Considerations

The design of the bin enclosure should be functional to allow all bins to be easily moved and cleaned and should be located in a position that is convenient for both users and collection staff.

The bin enclosure for the development will be designed with the following considerations:

- » The bin store area will have concrete slab floor with a graded floor to a waste drain that is connected to sewer. Floors to be even and flat for safe storage of bins;
- » Access doors will be self-closing to prevent access to vermin;
- » Adequate aisle width for easy manoeuvring of bins;
- » No double stacking of rows of bins;
- » All wall joins will be sealed to a height of 150 mm for ease of washing;
- » Walls are to be painted with washable paint;
- » A hose cock will also be included to facilitate washout of bins and washout of the area.
- » Drainage of wastewater from washing facilities will drain to main sewers;
- » Sufficient lighting for the bin enclosures should be provided by motion detected automatic artificial lighting in order to facilitate access to the bin enclosure;
- » Adequate ventilation will be provided in the bin enclosures to ensure sufficient turnover of the air mass to prevent odour nuisance;
- » Appropriate signage to be provided;
- » To be designed to not permit stormwater to enter into the drain;
- » Bins not to be visible from the property boundary or areas trafficable by the public;
- » Any external bin store greater than 20m is to be roofed as per Water Authority requirement; and bins are reasonably secured from theft and vandalism.

3 WASTE GENERATION AND MANAGEMENT

To ensure that the commercial waste from the development is properly managed, it was necessary to estimate the volume of waste that is likely to be generated on the premises.

3.1 General and Recycling Streams

Types of waste likely to be generated by development are:

- » **General Waste** – General waste includes non-recyclable plastics, food waste, recyclable packaging which is contaminated with food waste and other non-recyclable materials, as well as recyclables which have not been placed in the correct bin.
- » **Recyclables** – Co-mingled Recycling, which includes clean aluminium foil and trays, glass bottles and jars, long-life milk and juice cartons, cardboard, plastic containers, tins and cans. Workers frequently consume beverages packaged in recyclable containers, such as aluminium cans and polyethylene terephthalate (PET) bottles and milk is often provided by organisations in liquid paperboard or high-density polyethylene (HDPE) containers.

3.2 Other Streams

Storage, handling, and collection of liquid wastes are not covered in this WMP. Adequate space may be allocated for placement of cabinets/containers for collection and storage of speciality wastes that are unable to be disposed of within the bins in the bin storage area such as batteries, cooking oil, cleaning chemicals and commercial light globes. These materials will be removed from the site once sufficient volumes have been accumulated to warrant disposal.

It should be noted that the City provides two scheduled bulk waste verge collection services for bulk goods such as mattress, steel and e-waste and bulk organics for residents.

3.3 Waste Streams Estimates

As the City of Cockburn does not have specific waste generation rates for commercial developments, the City of Vincent Waste Guidelines for New Developments has been adopted as a reference for the estimation of wastes for the retail, tavern, gym, conference room and medical centre rates and WALGA's Commercial and Industrial Waste Management Plan Guidelines was used to estimate the wastes generated by the hotel and office.

Using the general and recycling waste generation rates outlined in **Table 3**, a broad estimation of the daily waste to be generated by the proposed development has been calculated.

Table 3 Waste Generation Rates

Type of Premises	Source	General Waste (L)	Co-mingled Recycling (L)
Hotel	WALGA	5 L/bed/day	5 L/bed/day
Retail	City of Vincent	300 L/100sqm/ day	200 L/100sqm/ day
Tavern	City of Vincent	400 L/100sqm/ day	300 L/100sqm/ day
Gym	City of Vincent	10 L/100sqm/day	10 L/100sqm/day
Office	WALGA	10 L/100sqm/day	10 L/100sqm/day
Conference Room	City of Vincent	200 L/100sqm/ day	200 L/100sqm/ day
Medical	City of Vincent	15 L/100sqm/day	15 L/100sqm/day

A summary of the estimated weekly waste generated for each waste stream is provided in **Table 4**. The waste volumes presented are estimates only and are representative of the design drawings of the development provided in November 2025.

Table 4 Weekly Waste

Lots	Type of Premises	General Waste (L)	Co-mingled Recycling (L)
Lot 1 (Hotel)	Hotel	5,635	5,635
	Retail (F & B)	11,697	7,798
Lot 1 Total		17,332	13,433
Lot 2 (Social Hub)	Tavern	28,900	21,735
	Conference Room	1,812	1,812
	Retail (F & B)	585	585
	Gym	13,335	8,890
Lot 2 Total		44,712	33,022
Lot 3 (Office)	Office	5,036	5,035
	Retail (F & B)	19,719	13,146
Lot 3 Total		24,755	18,182
Lot 4 (Mixed Use Bldg)	Retail (F & B)	13,335	8,890
	Office	563	563
	Medical	866	866
Lot 4 (Mixed Use) Total		14,764	10,319
Lot 4 (Office)	Retail (F & B)	11,256	7,504
	Office	5,166	5,166
Lot 4 (Office) Total		16,422	12,671

3.4 Bin Requirements

A summary of the breakdown of the anticipated MGB requirements for the commercial component of the proposed development, the proposed bin sizes and the proposed collection frequencies are provided in **Table 5**.

Table 5 Bin Requirements for Proposed Site

Type of Premises	Type of Waste	Size (L)	Collection	Number of Bins
Lot 1	General Waste	1700	weekly	11
	Recyclables	1700	weekly	8
	19 x 1700L			
Lot 2	General Waste	1700	twice weekly	14
	Recyclables	1700	twice weekly	10
	24 x 1700 L			
Lot 3	General Waste	1700	weekly	15
	Recyclables	1700	weekly	11
	26 x 1700 L			
Lot 4 (Mixed Use)	General Waste	1700	Twice weekly	5
	Recyclables	1700	Twice weekly	4
	11 x 1700 L			
Lot 4 (Office)	General Waste	1700	weekly	10
	Recyclables	1700	weekly	8
	18 x 1700 L			

The anticipated bin layouts for the various lots are illustrated in **Figure 7** to **Figure 10** and confirm that the required number of bins can be accommodated within the defined bin store areas for each of the Lots.

Figure 7 Proposed Bin Layout – Lot 1

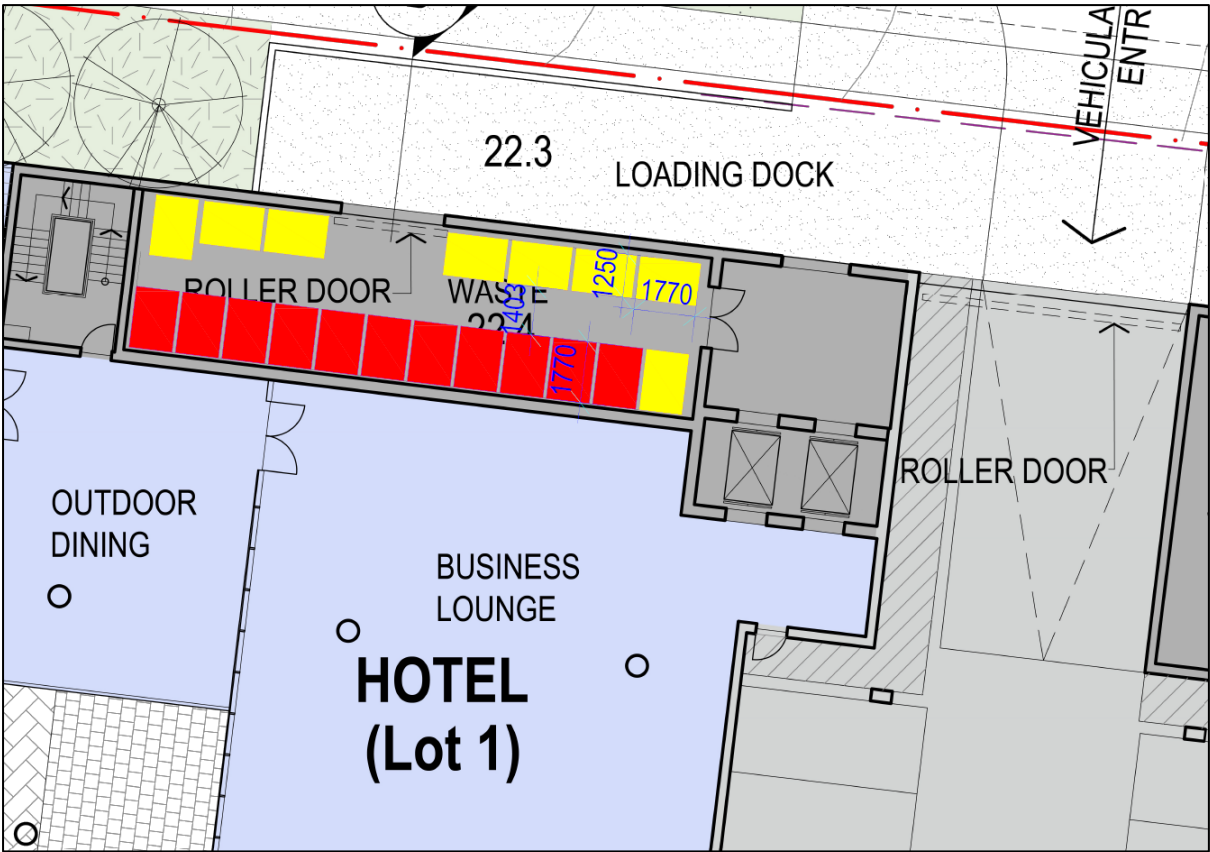


Figure 8 Proposed Bin Layout – Lot 2

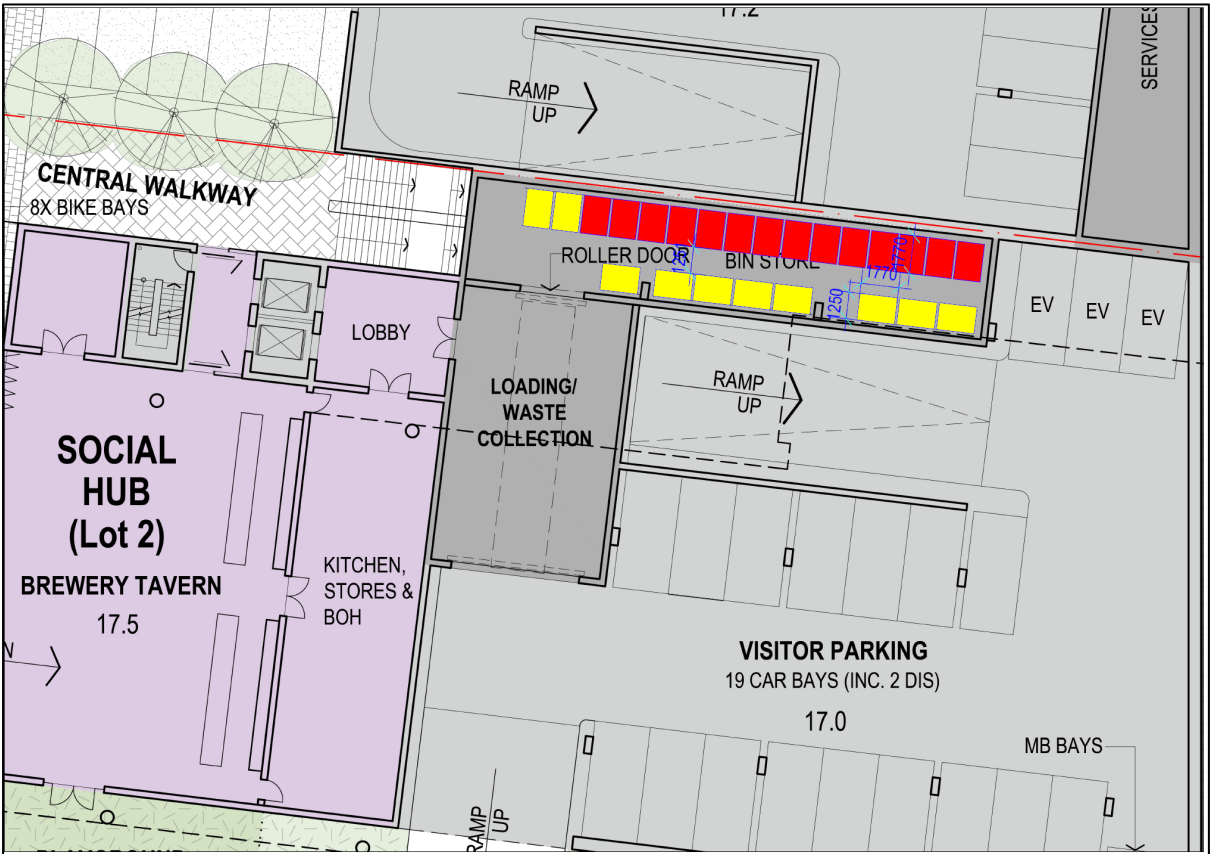


Figure 9 Proposed Bin Layout – Lot 3 & Lot 4(Office)

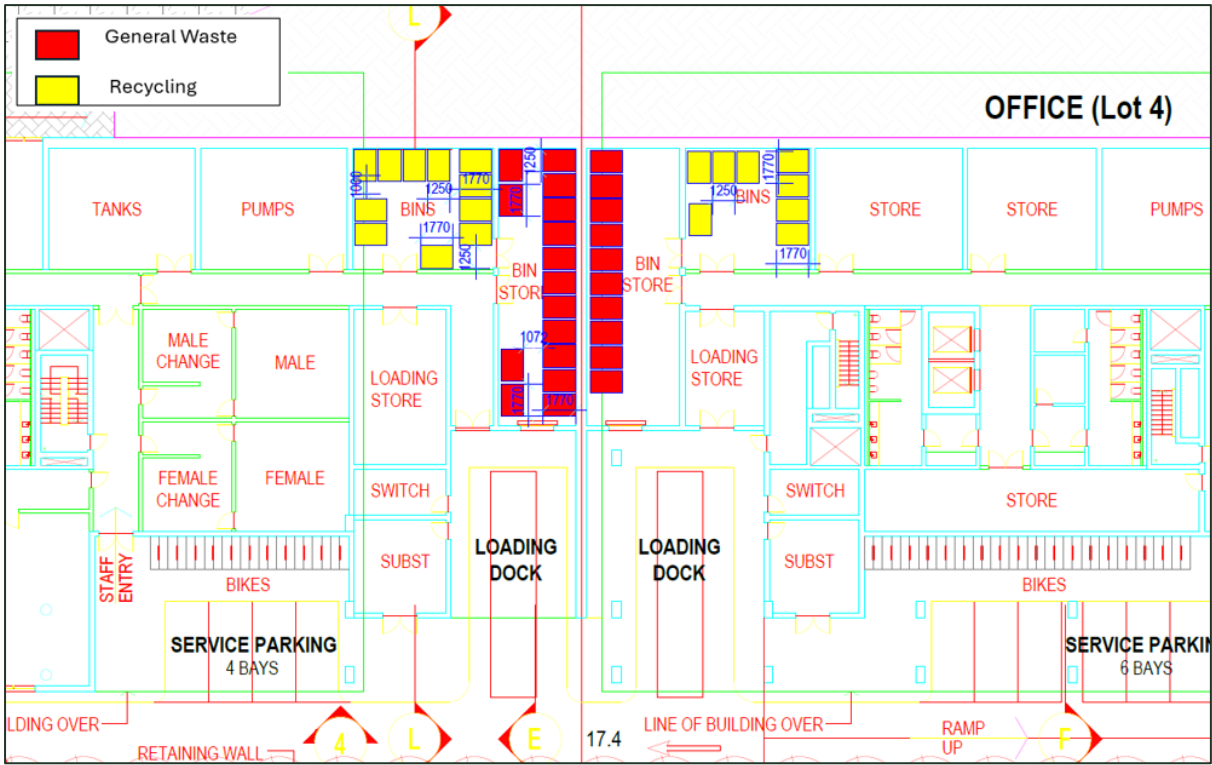
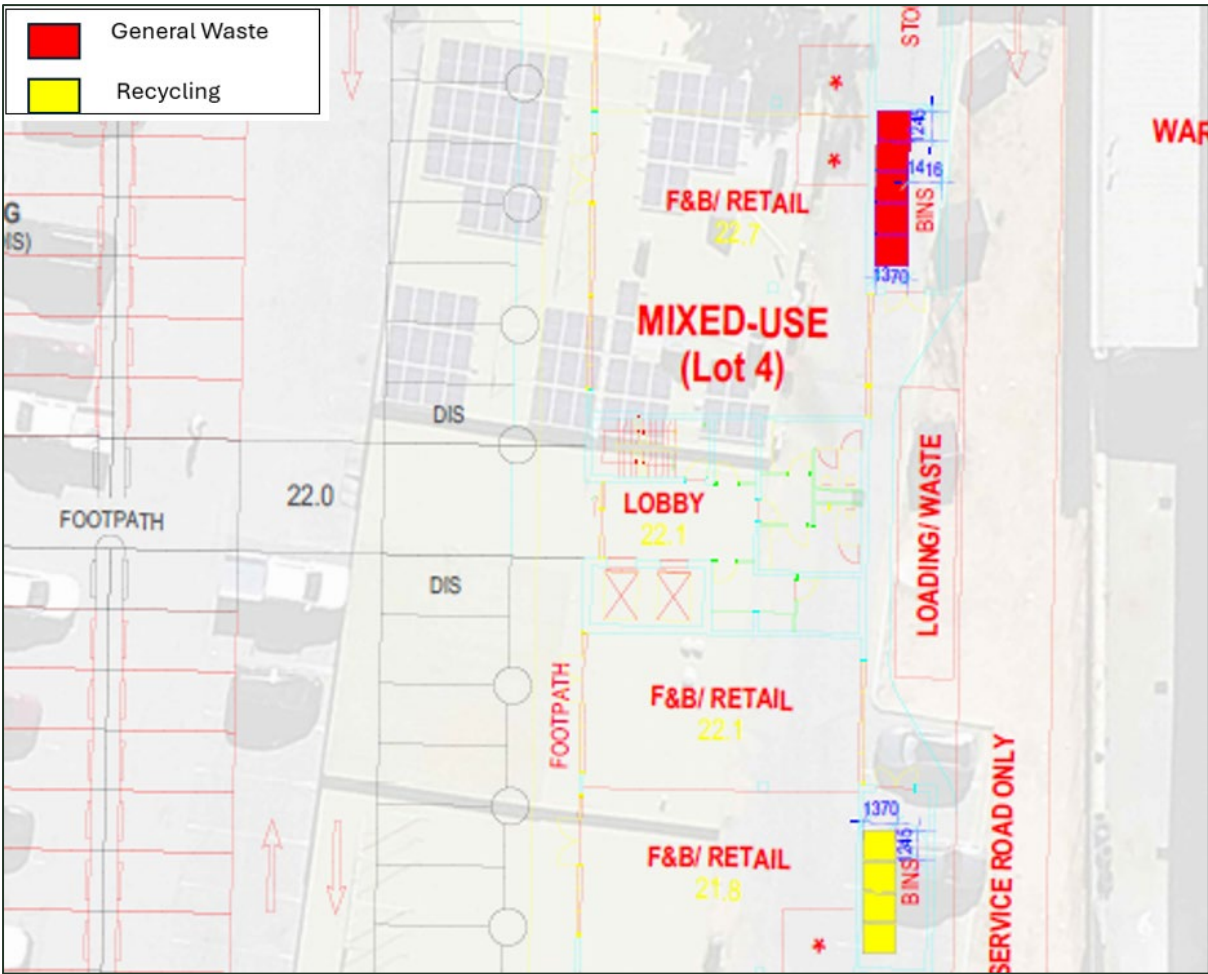


Figure 10 Proposed Bin Layout – Lot 4 (Mixed Use)



4 TRANSFER OF WASTE AND RECYCLING

4.1 Collection of Wastes

It is anticipated that the waste will be collected by a private contractor as per the collection frequencies indicated in **Table 2**. Waste collection is proposed to be undertaken from the designated loading areas with a rear lift truck.

4.1.1 Provision of Service Vehicle

Swept path analysis with a 10m waste collection vehicle was undertaken for Lot 1, Lot2 & Lot 4 (Mixed Use) developments whereas for Lot 3 & 4 (Office Bldg) with an 8.8m Vehicle. **Figure 10** to **Figure 13** illustrate the waste truck swept paths around the designated waste loading areas for each lot. The analysis demonstrates that the waste vehicle can access the site, collect the waste, and exit in forward gear without difficulties.

Figure 11 Waste Truck Swept Path – 10m (Lot 1- Hotel)

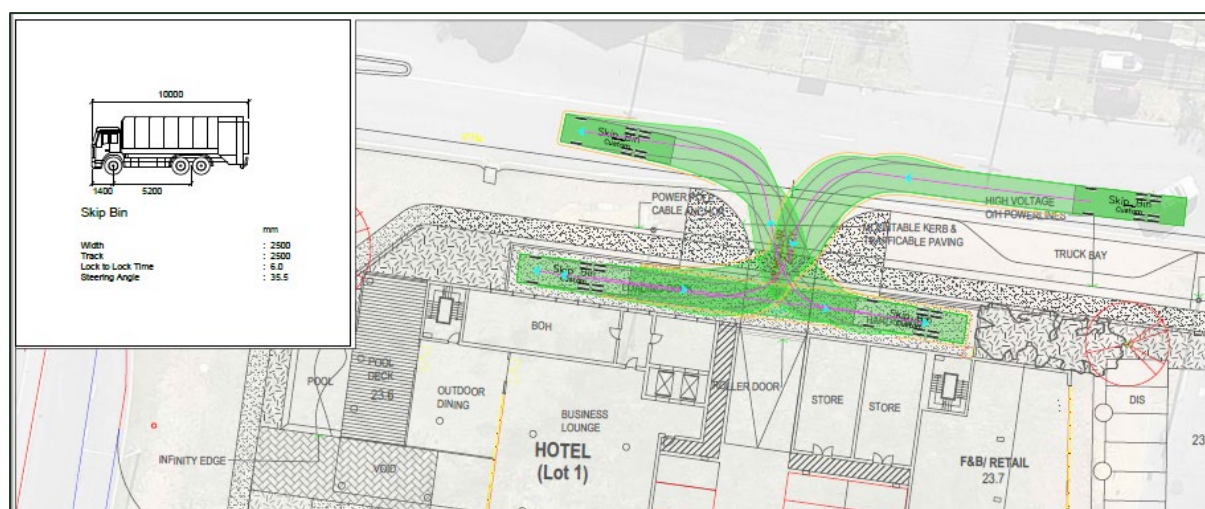


Figure 12 Waste Truck Swept Path - 10m (Lot 2- Social Hub)

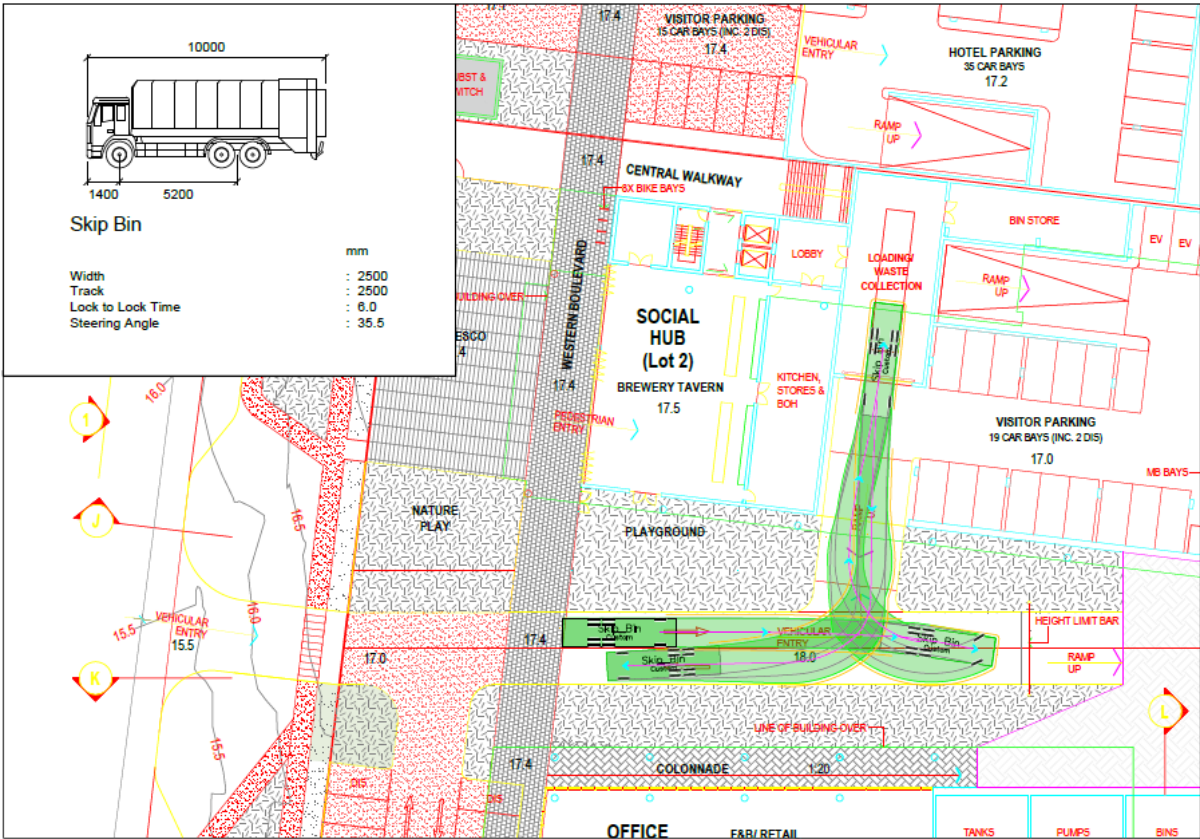


Figure 13 Waste Truck Swept Path - 10m (Lot 3 & 4- Office)

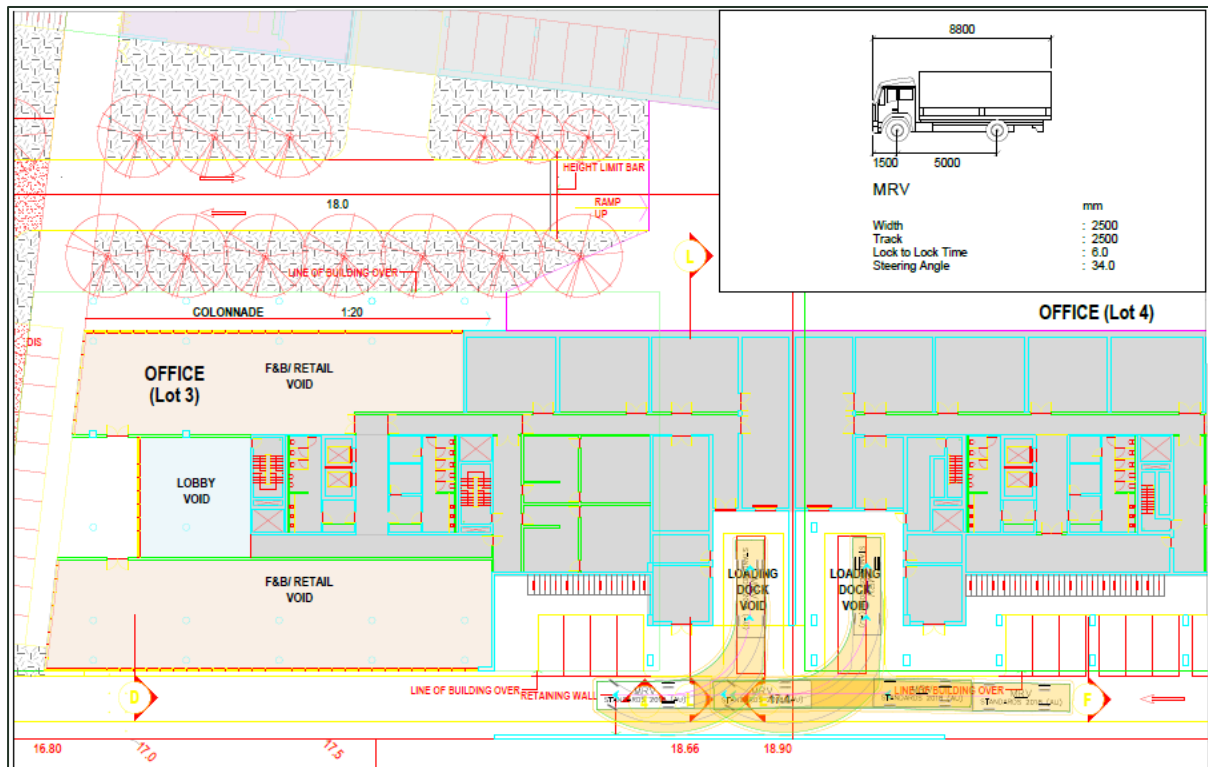
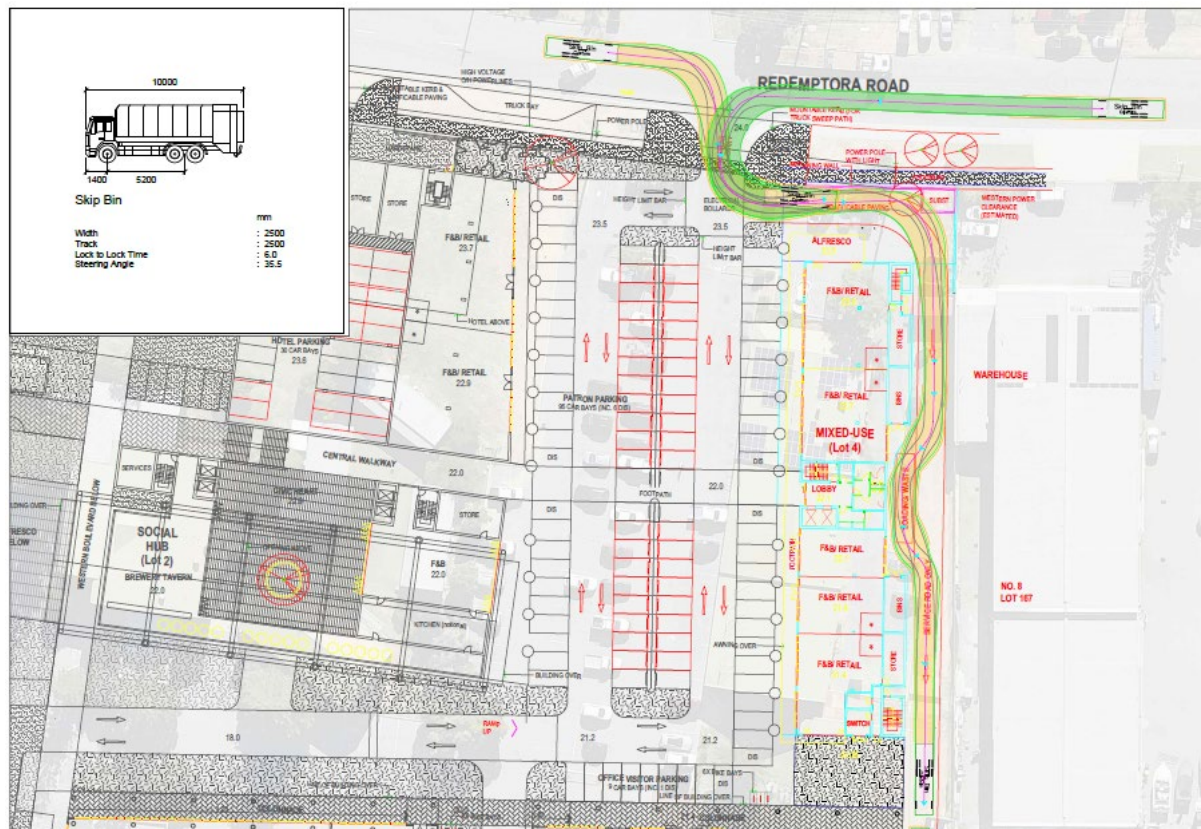


Figure 14 Waste Truck Swept Path - 10m (Lot 4- Mixed Use)



5 WASTE REDUCTION AND MANAGEMENT STRATEGY

The waste reduction and management strategy has been developed with a strategic approach to reducing waste. The waste hierarchy is a widely accepted framework used to guide waste reduction and management strategies. According to WALGA, the waste hierarchy is described as:

- » **Reduce/avoid** double-sided printing, electronic filing, provision of reusable cups, provision of electronic hand-driers
- » **Reuse:** reuse one-sided prints for internal printouts, reuse manila folders and ring-binders, donate unwanted items to local schools or charities, return packaging to suppliers for reuse
- » **Recycling:** providing locked bins for shredding and recycling of sensitive documents, having specific bins for materials that require separate recycling
- » **Recovery:** composting of organic material and waste to energy options
- » **Disposal:** for some materials, disposal at a suitably licensed landfill is the only option (e.g. asbestos).

5.1 Provision of Information

The dissemination of guidelines, best practices, and educational materials highlights the importance of providing clear and accessible information to ensure effective waste reduction and management. Clear signage is essential, as it guides users on the proper use of the waste management system. According to WALGA, the key aspects of signage to consider are:

- » Waste recycling and organics bins must be clearly and correctly labelled at all times;
- » Waste storage areas must have clear signage instructing cleaners and tenants how to correctly separate waste, recycling and organic materials. Pictorial guides and community languages should be used if appropriate;
- » The location of, and directions to, waste storage areas must be well signposted, with directional signs, arrows or lines on the floor indicating the most direct routes for cleaners and tenants;
- » All hazards or potential dangers associated with the waste facilities should be clearly identified, especially those linked to compaction or other waste handling equipment;
- » Emergency contact information should be displayed in case there are any issues with the waste and recycling systems/services in the building.

5.2 Engagement

A regular and on-going engagement between all the stakeholders of the development should take place in order to remind the residents the proper and best practices of waste reduction and management. The engagement should include:

- » Demonstration of waste management systems pertinent to an individual's role; and
- » An explanation of the benefits of practicing waste hierarchy.

6 CONCLUSION

This Waste Management Plan demonstrates that the proposed mixed-use development provides sufficient provision for general waste and recyclables based on the estimated waste generation.

The above is achieved using the following for various lots:

Lot 1 (Hotel)

- » Six (6) 1700L general waste bins collected once twice weekly; and
- » Four (4) 1700L general waste bins collected once twice weekly

Lot 2 (Social Hub)

- » Fourteen (14) 1700L general waste bins collected once twice weekly; and
- » Ten(10) 1700L general waste bins collected once twice weekly

Lot 3 (Office)

- » Fifteen (15) 1700L general waste bins collected once weekly; and
- » Eleven (11) 1700L general waste bins collected once weekly

Lot 4 (Mixed Use)

- » Five (5) 1700L general waste bins collected once twice weekly; and
- » Four (4) 1700L general waste bins collected once twice weekly

Lot 4 (Office)

- » Ten (10) 1700L general waste bins collected once weekly; and
- » Eight (8) 1700L general waste bins collected once weekly

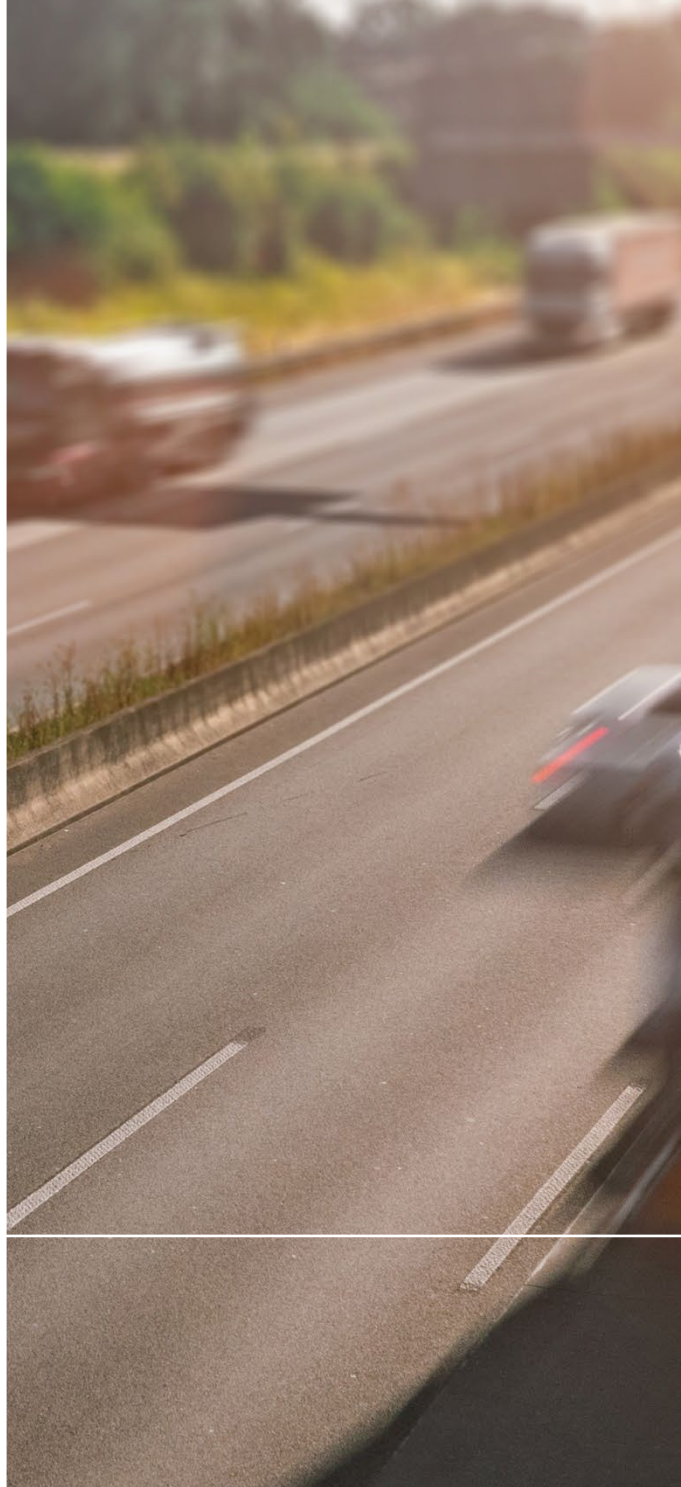
Waste collection will be undertaken by a private contractor and will be arranged to occur during off peak hours to minimise disruption to traffic operations as well as minimise any impacts to staff and visitors. The waste collection vehicles are anticipated to collect the general and recycling bins on site. The housekeeping staff will move the bins to the waste collection areas on the days of collection and return the empty MGBs back to the respective bin store areas.



Appendix A

Site Plans





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