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Reduce. Reuse. Recycle

**Lot 601 Brockman Street, Gingin**  
Proposed Commercial Development

**Waste Management Plan**



Prepared for:  
**Westerly Developments Pty Ltd**

October 2023

# Lot 601 Brockman Street, Gingin

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## Version control

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U23.092.r02	15/10/23	PG	DRAFT	Hodge Collard Preston
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# 1 Introduction

This Waste Management Plan has been prepared by **Urbii** on behalf of **Westerly Developments Pty Ltd** with regards to the Proposed Commercial Development, located at Lot 601 Brockman Street, Gingin.

The subject site is situated on the northern side of Weld Street, as shown in Figure 1. A commercial development is proposed on a portion of the site, near the Gingin Community Resource Centre and Shire of Gingin offices. The remaining portion of land is subject to future planning. The commercial development is the subject of this WMP.

The key issues that will be addressed in this WMP include calculation of the waste generation of the site, assessment of waste storage provisions and documentation of the waste collection arrangements.



Figure 1: Subject site



## 2 Objectives

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The objectives of this WMP are adapted from the WALGA *Commercial and industrial Waste Management Plan Guidelines*:

- Ensure that the long-term waste management needs for the development are met in an efficient and sustainable manner.
- Minimise the impact of waste services and facilities on the streetscape and surrounds, in relation to both the footpath/public realm and the frontage of the development.
- Reduce the impact of waste collection services and facilities on the amenity of the locality particularly in terms of noise and odour.
- Maximise safety for both waste collection staff and the public.
- Minimise traffic and footpath obstruction.

## 3 Referenced documents

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**The documents referenced in preparing this WMP may include, but are not limited to:**

- City of Melbourne *Guidelines for Waste Management Plans* 2021;
- City of Perth *Waste Guidelines for all Developments* 2019;
- WALGA *Commercial and Industrial Waste Management Plan Guidelines*;
- WALGA *Multiple Dwelling Waste Management Plan Guidelines*;
- WALGA *Subdivision Waste Management Plan Guidelines*; and,
- Waste Authority WA *Waste Avoidance and Resource Recovery Strategy for 2030*.



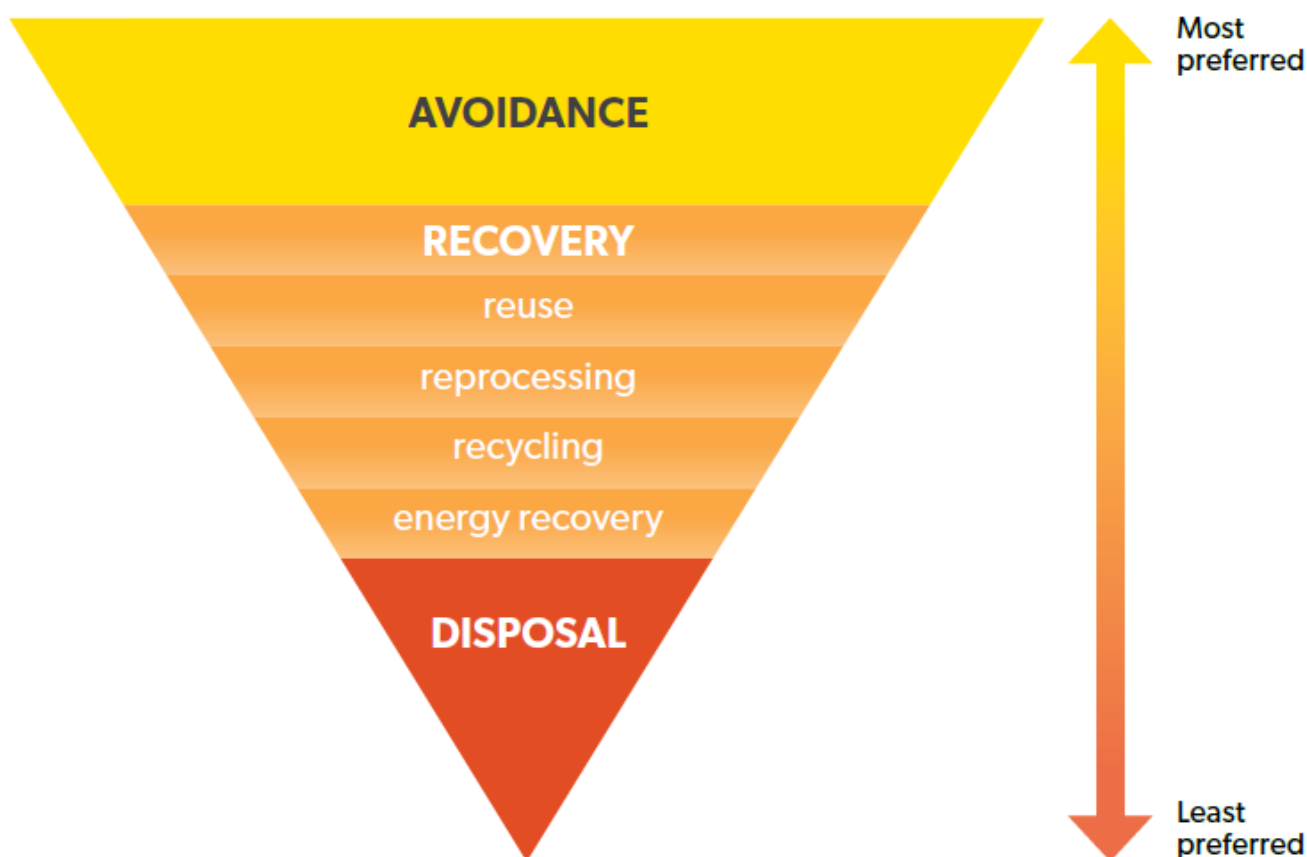
## 4 Guiding concepts

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Urbii adopts the guiding concepts of the State's Waste Strategy and encourages these concepts to be considered in all developments to the furthest extent feasible.

### 4.1 Waste hierarchy

The *Waste Avoidance and Resource Recovery Strategy 2030* applies the waste hierarchy (Figure 2), which is a widely accepted decision-making tool. The waste hierarchy ranks waste management options in order of their general environmental desirability. Waste avoidance is the most preferred option in the hierarchy.



**Figure 2: Waste hierarchy**

Source: Waste Authority WA *Waste Avoidance and Resource Recovery Strategy for 2030*.

Resource recovery options recover value from materials, thereby offsetting the environmental impacts of extracting and processing raw materials. Energy recovery is the least preferred recovery option. Disposal is the least preferred option. Disposal generally recovers the least value from materials and delivers the least environmental benefit.



## 4.2 Circular economy

A circular economy (Figure 3) makes use of established sustainability concepts, including life cycle thinking and resource efficiency. A circular economy should consider the flow of both materials and energy. It moves away from the linear ‘take, make, use and dispose’ model, to one which keeps materials and energy circulating in the economy for as long as possible.

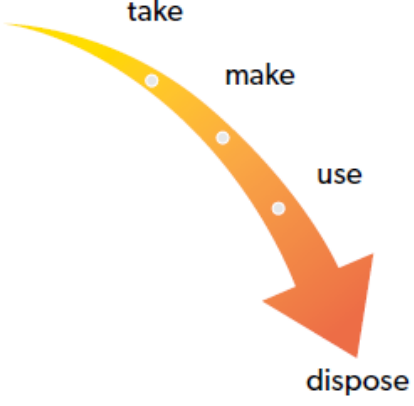

Current approach	Circular economy
 <p>A linear flow diagram showing a curved arrow starting from 'take' (top left), moving through 'make' and 'use' to 'dispose' (bottom right). The arrow is colored with a gradient from yellow to orange to red.</p>	 <p>A circular diagram with a central white circle. The outer ring is divided into seven colored segments: 'raw materials' (red), 'design' (purple), 'production remanufacturing' (blue), 'distribution' (teal), 'consumption, use, reuse, repair' (green), 'collection' (yellow), and 'recycling' (orange). A brown arrow loops from the 'collection' segment back to the 'raw materials' segment, indicating a circular flow.</p>
Linear flow of materials – ‘take, make, use and dispose’ model.	Circular flow of materials – materials sorted and retained in the economy for as long as possible.
Limited use of renewable materials and energy.	Preference for renewable materials and energy.
Significant volumes of materials disposed of and lost to the economy. Loss of embodied materials, energy and water.	Materials recovered as high up the waste hierarchy as possible. Embodied materials, energy and water retained in the economy. Organic materials re-enter and regenerate the environment safely (for example, as compost).
Materials managed locally and globally.	Preference to manage materials locally to reduce the costs and impacts of transport, and to provide local employment and investment opportunities.
Economic value of materials, employment and investment not fully accounted for.	Economic value of materials, employment and investment accounted for.
Limited focus on life cycle thinking.	Products designed and manufactured to minimise environmental impact through whole of life.

Figure 3: Transitioning to a circular economy



# 5 Proposed development

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**The anticipated volume of general waste and recyclables is based on the floor area of the proposed development.**

A commercial development is proposed for the subject site, which will include complementary uses as detailed in Table 1. The proposed development will deliver a total Gross Floor Area of around 2,100m<sup>2</sup>. Some minor variations in floor area may take place as further plan amendments are made.

**Table 1: Proposed uses**

Land use	Gross Floor Area (m2)
<b>T1 - Supermarket</b>	1200
<b>T2 - Café</b>	150
<b>T3 - Hair</b>	80
<b>T4 - Pizza</b>	90
<b>T5 - Butcher</b>	100
<b>T6 - Liquor</b>	250
<b>T7 - Post Office</b>	214
<b>Total</b>	<b>2084</b>

The proposed development plans are included for reference in Appendix A.

# 6 Waste generation

## 6.1 Waste generation rates

As the proposed development is located in a regional site with low population density, typical waste generation rates for commercial uses are likely to overestimate the waste generation of the development. Waste generation rates are typically derived from surveys of sites in urban areas.

The site operator has provided a reference use case of a comparable site being operated in Two Rocks. The reference Two Rocks Shopping Centre site provides a mix of tenancies, similar to the proposed development, and is larger in size, with a Gross Floor Area of approximately 2,800m<sup>2</sup>.

## 6.2 Waste generation calculations

As detailed in Table 2, the reference site provides 5 x 3,000L General Waste and 1 x 3,000L Recycling bins. These are front lift bins stored in rear service yards at the site. Waste is collected twice weekly, which provides a total waste capacity of 30,000L of General Waste and 6,000L of Recycling per week.

It is proposed to provide the same number of bins as the reference site, but to upgrade the bin sizes to 4,500L.

The proposed development's total floor area is 25% less than the reference site. However, the weekly collection capacity is higher, at 45,000L of General Waste and 9,000L of Recycling per week.

The site operator has advised this will be more than sufficient for the development. Waste generation will be monitored on an ongoing basis with the option to increase the collection frequency should it be required.

**Table 2: Comparison of proposed development with reference site**

Site	Area (m <sup>2</sup> )	Bin size (L)	GW Bins	REC Bins	Collections per week	GW capacity (L/week)	REC capacity (L/week)
<b>Comparison site: Two Rocks Shopping Centre</b>	2800	3000	5	1	2	30000	6000
<b>Proposed development Gingin</b>	2100	4500	5	1	2	<b>45000</b>	<b>9000</b>



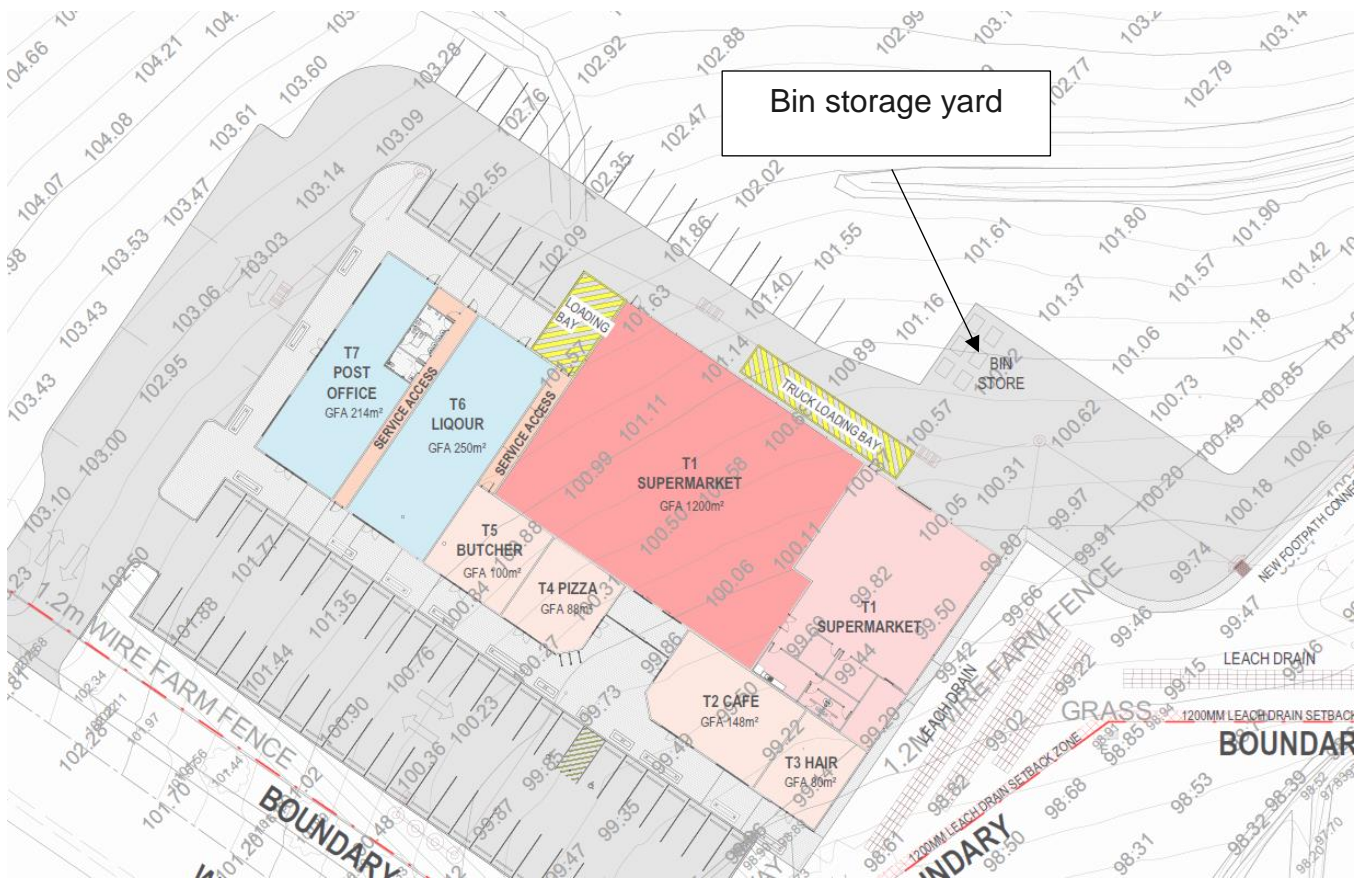
# 7 Waste systems

## 7.1 Internal bin storage areas

Employed cleaners or staff associated with each tenancy will be responsible for transferring waste generated by individual tenancies to the bin yard at the rear of the site.

## 7.2 External bin storage areas

A bin storage yard is proposed to be provided on ground level at the rear of the site (Figure 4).



**Figure 4: Bin storage location**

### 7.2.1 Bin size, quantity and colour

It is proposed to provide 5 x 4,500L General Waste and 1 x 4,500L Recycling bins. This is based on a collection frequency of two times per week.

# 8 Waste collection

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## 8.1 Waste vehicle types

This WMP has allowed for a front lift waste truck to service the site. These trucks are typically around 11.0m in length.

## 8.2 Waste collection frequency

The waste calculations and bin store design have assumed a collection frequency schedule of two times per week for general waste and recycling.

## 8.3 Waste collection method and presentation points

Waste trucks will enter the site in forward gear from Lily King Place. A bin storage and collection yard is provided at the rear of the site, which provides sufficient space for the waste truck to move and empty bins.

## 8.4 Vehicle access and maneuvering

The design and checking vehicle for swept paths is an 11m front lift waste truck. The swept path analysis is presented in Appendix B, and confirms that there is satisfactory road and intersection geometry for waste truck access and maneuvering.



# 9 Additional waste requirements

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## 9.1 Bulk waste

Bulk waste can be stored in the waste yard, loading areas or back of house for a brief time until arrangements can be made for removal.

## 9.2 E-waste

Storage space for E-waste will be accommodated in designated storage areas or in the back of house areas. E-waste will be disposed of in a suitable manner, such as bulk drop-off to the tip or using public battery recycling boxes.

## 9.3 FOGO

The site caretaker will manage garden organic waste. Garden waste can be placed in general waste bins if there is space or can be removed by trailer to be disposed offsite in a suitable location.

# 10 Waste management

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Each tenancy will be supplied with small bins for internal waste storage. Employed cleaners will empty bins regularly and transfer waste to the bin storage yard. Waste will be sorted from general waste and recyclables and placed in the correct bins.

Designated staff will be responsible for:

- Cleaning the bin storage areas and facilities; and,
- Regularly cleaning bins.

The appointed facility manager will be responsible to:

- Appoint a staff member for:
  - arranging pick-up times for the bins by the private contractor;
  - arrange for the bins to be cleaned and sanitised; and
  - coordinating the cleaning of the bins and bin storage areas every two (2) to three (3) weeks;
- Deal promptly with any issues or complaints relating to hygiene, noise, odour or other inconvenience; and,
- Provide adequate training for relevant staff regarding waste management.

A copy of the Waste Management Plan will be maintained within the office/administration area of the premises for reference and records.



# 11 Conclusion

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As demonstrated within this Waste Management Plan, the proposed commercial development provides sufficient bin storage and adequate bins to service the site for general waste and recyclables.

Furthermore, the servicing of the bins by private service can be adequately achieved without having an adverse impact on the site and the local street network.

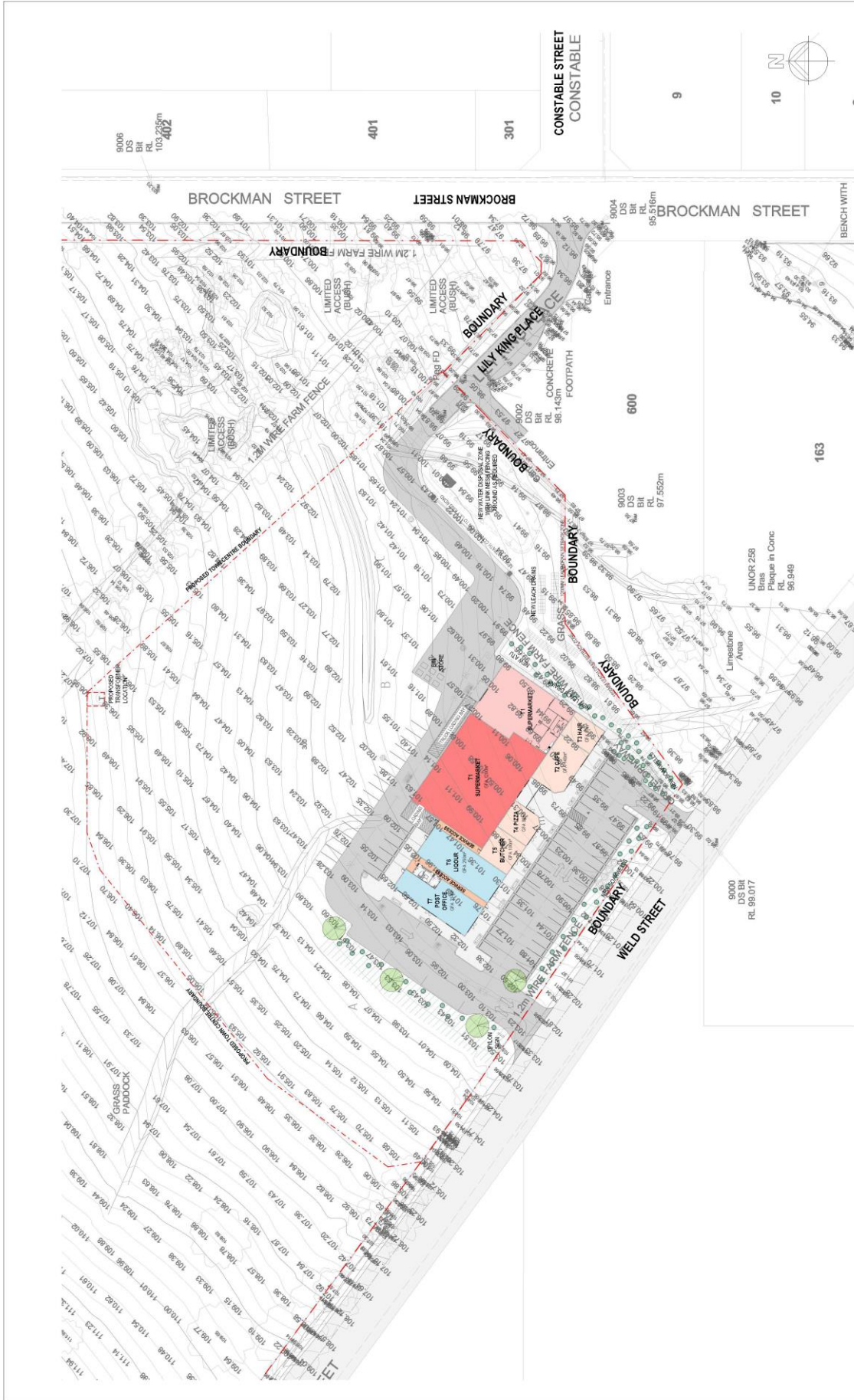


# Appendices

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## Appendix A: Proposed development plans







PROPOSED FLOOR PLAN

PROPOSED GINGIN COMMERCIAL - STAGE 1

## Appendix B: Swept path analysis

Swept path diagrams are included in this section of the report. Different coloured lines are employed to represent the various envelopes of the vehicle swept path, as described below:

**Cyan** represents the wheel path of the vehicle

**Green** represents the vehicle body envelope

**Blue** represents a 500mm safety buffer line, offset from the vehicle swept path

The swept path diagrams are also provided separately in high-quality, A3 PDF format.





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<b>Date:</b> 18/10/2023	<b>Scale:</b> @A3
<b>Project:</b> U23002 - Lot601 Brookman Street, Origin Proposed Commercial Development	<b>Revision:</b> SUG

<b>Drawing Title:</b> Sweep path analysis 11.0m Front LHM Waste Truck
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<b>Drawn by:</b> Paul O'Rourke	<b>Client:</b> Western Developments Pty Ltd
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<b>Revision notes:</b>	<b>Notes:</b>
Rev: 1 Date: 18/10/2023	Dark blue sweep path line represents a 500mm buffer