Archer Consultants Pty Ltd

PH: 02 7227 9360 ABN: 79 661 164 683

19-25 Balfour Street, Lindfield NSW 2070

COMBINED DEMOLITION/CONSTRUCTION & OPERATIONAL WASTE MANAGEMENT PLAN

Proposed Multi-Apartment Development

Client - Balfour Group Pty Ltd

Revision - 1H

Prepared for - Ku-Ring-Gai Council - May 2026

CONTENTS

FIGURES

TABLES

EXECUTIVE SUMMARY

This Waste Management Plan has been prepared by Archer Consultants Pty Ltd on behalf of Balfour Group Pty Ltd to accompany a State Significant Development Application (SSDA) for a proposed residential flat building (including in-fill affordable housing) at 19 – 25 Balfour Street, Lindfield, within the Ku-ring-gai Local Government Area (LGA).

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-82709458) on 22 April 2025.

This report concludes that the proposed residential flat building is suitable and warrants approval subject to the implementation of the following mitigation measures.

- Provide the measures to be implemented to manage, reuse, recycle and safely dispose of waste, including in accordance with any council waste management requirements.
- Identify appropriately sited waste storage areas, collection access paths/roads, and appropriate servicing arrangements for the site.

Following the implementation of the above mitigation measures, the remaining impacts are considered appropriate.

INTRODUCTION

The SSDA seeks development consent for a proposed residential flat building, including in-fill affordable housing at 19 – 25 Balfour Street, Lindfield. The proposed works include demolition of existing structures, site preparation works, excavation and construction of the building and associated landscaping works.

Specifically, the SSDA seeks development consent for:

- demolition of existing buildings and structures on site
- construction of a ten-storey residential flat building featuring:
  - basement level car parking
  - 90 market residential units
  - 30 affordable housing units (comprising 2% under TOD and 15% under Housing SEPP)
- associated landscaping works, including a communal open space.
- associated infrastructure and services

The proposal incorporates 17% affordable housing pursuant to Chapter 2, Section 15C and Chapter 5, Section 156 of the Housing SEPP. The proposal seeks to utilise the incentive controls under Chapter 2, Part 2, Division 1, Section 16 of the State Environmental Planning Policy (Housing) 2021 (Housing SEPP) to achieve 30% additional building height and floor space ratio (FSR).

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 22 April 2025 (SSD-82709458). Specifically, this report has been prepared to respond to the SEARs requirement issued below.

Item	Description of requirement	Section reference
17. Waste Management	• Provide the measures to be implemented to manage, reuse, recycle and safely dispose of waste, including in accordance with any council waste management requirements. • Identify appropriately sited waste storage areas, collection access paths/roads, and appropriate servicing arrangements for the site.	Pg 9 - 15 Pg 16 & 17

In the course of preparing this WMP, the subject site and its environs have been inspected, plans of the development examined, and all relevant council requirements and documentation collected and analysed.

- Architectural Plans provided by Giles Tribe.
- Kung-Ring-Gai DCP & EPA Better Practice Guidelines for Waste Management.

BACKGROUND & EXISTING CONDITIONS

The subject site is located on the northwestern side of Balfour Street and the nearby land uses on all sides are mainly residential.

Figure 1 provides an overview of the area, and its surrounding land uses whilst **Figure 2** provides an aerial view of the immediate area surround the subject site.

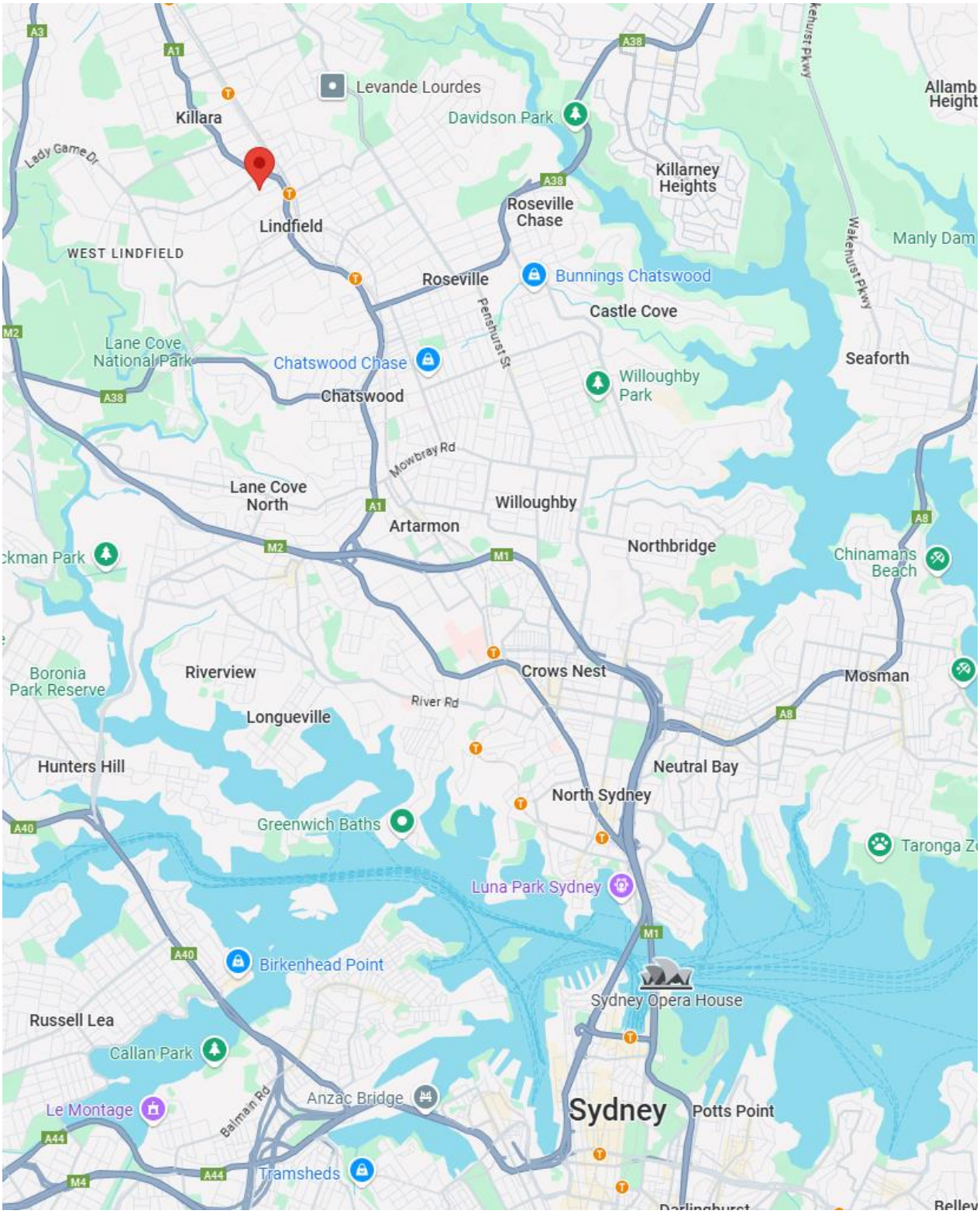


Figure 1: Subject Site Location *source: Google Maps*

Figure 2: Subject Site Aerial View *source: Google Maps*

WASTE MANAGEMENT PRINCIPLES

When dealing with waste, the following hierarchy has been adopted, prioritising from left to right;

Avoid/Reduce

Particularly during the construction phase, avoidance of waste will be achieved through:

- Selecting design options with the most efficient use of materials;
- Selecting materials with minimal wastage, such as prefabricated materials.

Reuse

Some of the materials encountered in the demolition stage can be recovered and reused both on-site and off-site. This will be practiced wherever possible. Reusable materials shall be appropriately stored to avoid damage from weather or machinery.

Recycle

Similarly, many materials form the demolition stage will be recyclable. These materials will be identified prior to demolition, and a system incorporated to efficiently separate reusable materials, recyclable materials and disposable materials. Recyclable materials shall be appropriately stored to avoid damage from weather or machinery. Details and receipts verifying the recycling of these materials shall be kept present on site at all times.

Disposal

The waste disposal contractor chosen for the job will comply with Council's DCP. Details and receipts verifying the disposal of these materials shall be kept present on site at all times.

Handling

When handling waste on-site, the system (including bin placement, volumes, and access) shall be designed with the following factors in mind:

- Safety (highest priority);
- Ease of use; and
- Aesthetics.

Stockpiling

Waste sorting areas and vehicular access on-site during demolition and construction shall be adequately maintained. The material (demolition material, excavation material, construction material and waste) stockpiling area shall always remain within the site boundary and relocate during different demolition and construction stages as necessary. The waste area shall be largely located at the front of the site. This is to maintain easy access and removal of waste. The stockpiling area shall not infringe on access to the site, however. Hoardings shall bind the site perimeter; therefore, the waste shall not be visible from the street.

DEMOLITION & CONSTRUCTION STAGE

The proposed development consists of demolishing the existing structures of site and constructing a ten-storey apartment building with basement parking and associated landscaping.

Demolition Works

It should be noted that the demolition stage has the greatest potential for waste minimisation, particularly in Sydney where there are high levels of development, relatively high tipping charges and where alternative quarry materials are located on the outskirts.

The contractor should consider whether it is possible to re-use existing buildings, or parts thereof, for the proposed use. With careful onsite sorting and storage and by staging work programs it is possible to re-use many materials, either on-site or off-site.

Councils are typically seeking to move from the attitude of straight demolition to a process of selected deconstruction, i.e. total reuse and recycling both off-site and on-site. This could require a number of colour-coded or clearly labelled bins onsite (rather than one size fits all).

Site contractors should demonstrate project management which seeks to:

- Re-use of excavated material on-site and disposal of any excess to an approved site;
- Green waste mulched and re-used in landscaping either on-site or off-site;
- Bricks, tiles and concrete re-used on-site as appropriate, or recycled off-site;
- Plasterboard re-used in landscaping on-site, or returned to supplier for recycling;
- Framing timber re-used on-site or recycled elsewhere;
- Windows, doors and joinery recycled off-site;
- Plumbing, fittings and metal elements recycled off-site;
- All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with Workcover Authority and EPA requirements.
  NOTE: Disposal of hazardous chemicals is regulated and must be tracked (Certified Trackable Waste Transporter) under the chain of custody and chain of responsibilities, philosophies with the site manager ultimately responsible for logistics and all waste generated on site;
- Locations of on-site storage facilities for material to be reused on-site, or separated for recycling off-site; and
- Destination and transportation routes of all materials to be either recycled or disposed of off-site.

Construction Works

The following measures shall be considered during the construction stage in order to save resources and minimise waste:

- Purchasing Policy – i.e. ordering the right quantities of materials and prefabrication of materials where possible;
- Reusing formwork;
- Minimising site disturbance, limiting unnecessary excavation;
- Careful source separation of off-cuts to facilitate re-use, resale, or efficient recycling; and
- Co-ordination/sequencing of various trades.

ESTIMATING WASTE QUANTITIES

There are many simple techniques to estimate volumes of construction and demolition waste. The sequence of steps provided below can be used as a guide;

1) Quantify materials for the project
2) Use margin normally allowed in ordering
3) Copy these amounts of waste into your waste management plan

When estimating waste generation, the following percentages can be used as a “rule of thumb” practice;

Materials	Percentage of Waste / Total Materials Ordered
Timber	5-7%
Plasterboard	5-20%
Concrete	3-5%
Bricks	5-10%
Tiles	2-5%

Table 1: Estimating Waste Levels

Subsequently, the following table illustrates how to convert volumes of material to their respective weights. This information is particularly important during material storage and transportation stages.

Materials
Timber = 0.5 tonnes per m^3
Concrete = 2.4 tonnes per m^3
Bricks = 1.5 tonnes per m^3
Tiles = 0.75 tonnes per m^3
Steel = 2.4 tonnes per m^3

Table 2: Converting Volume into Weight

WASTAGE TYPES AND HANDLING

Waste volumes produced by excavation, demolition and construction stages shall be estimated by the contractor at the construction certificate stage. Where possible, materials shall be reused or recycled, with disposal being the last resort. The destination of all recycled and disposed material shall be announced upon the selecting the waste collectors and recyclers.

The arrangements for all reused, recycled and disposed waste shall be tracked and recorded, and all receipts shall be held on-site.

Table 3: Waste Types and Handling

Demolition Phase

Materials on Site	Waste Estimate - Volume (m^3) or Weight (t)	On-Site Reuse	Off-Site Recycling	Off-Site Disposal (Accordance with DECCW)
Bricks	TBA			
Ceramic Tiles	TBA			
Timber	TBA			
Concrete	TBA			
Metals	TBA			
Other	TBA			
Hazardous	TBA			

The Demolition reuse/recycling/disposal information will be advised at CC Stage.

Construction Phase

Materials on Site	Waste Estimate - Volume (m^3) or Weight (t)	On-Site Reuse	Off-Site Recycling	Off-Site Disposal (Accordance with DECCW)
Bricks	TBA			
Ceramic Tiles	TBA			
Timber	TBA			
Concrete	TBA			
Metals	TBA			
Other	TBA			

The Construction reuse/recycling/disposal information will be advised at CC Stage.

WASTE COLLECTION (DEMOLITION & CONSTRUCTION STAGE)

The waste collection service for the proposed demolition and construction stage of the development will be provided by a private waste contractor.

All vehicle movements and strategic placement of the bins on site, ensuring the bins are relocated when needed during the works to maintain safe access and use at all times, will be provided by the site manager.

Demolition & Construction Waste Security/Communication Strategy

All demolition and construction bins will be secured on site with all site workers receiving documentation detailing all necessary requirements for safe waste management and handling whilst attending the site health and safety induction course.

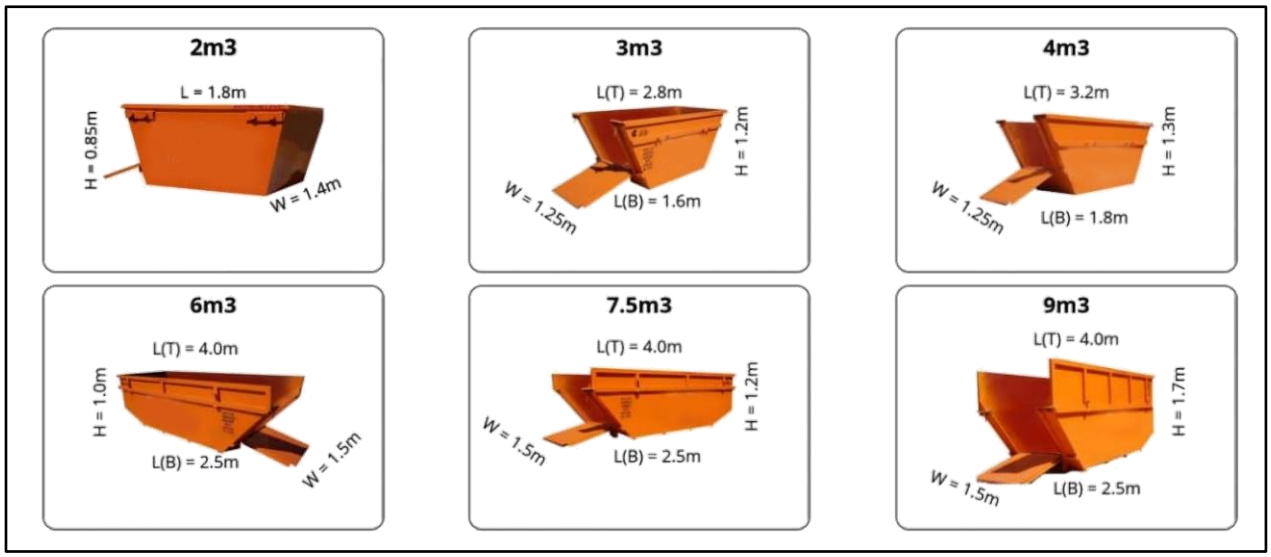


Figure 3: Typical Waste Skips for Demolition & Construction Site Waste Management

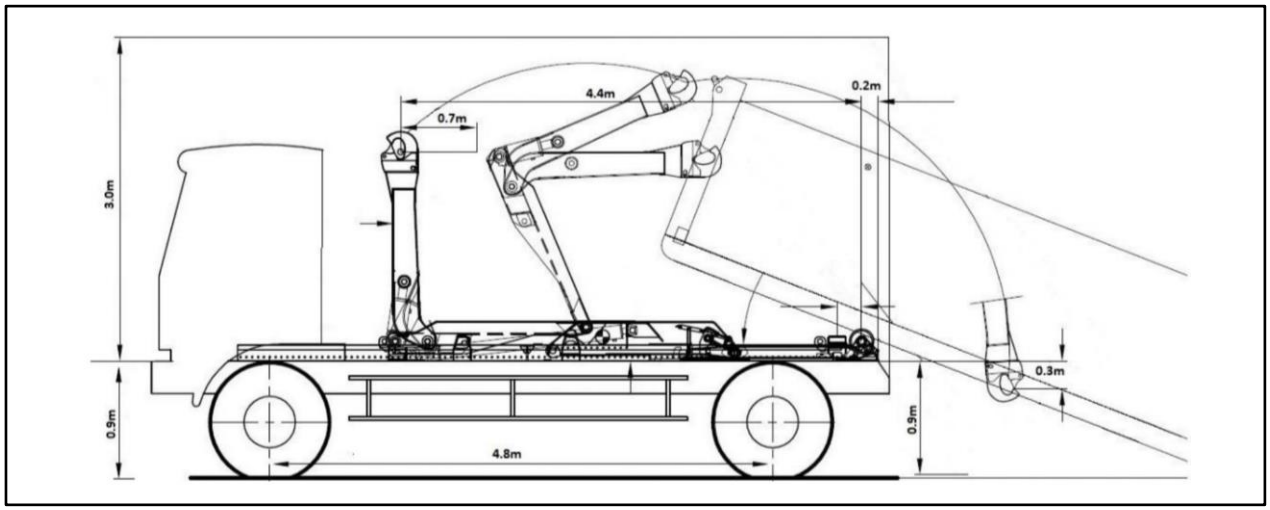


Figure 4: Typical Hook Lift Waste Collection Vehicle Configuration

OPERATIONAL WASTE MANAGEMENT, STORAGE AND COLLECTION

The proposed development consists of demolishing the existing structures of site and constructing a ten-storey apartment building with basement parking and associated landscaping.

The apartment building will contain 120 apartments consisting of 55 x 2 bedroom, 56 x 3 bedroom and 9 x 4 bedroom apartments.

Access to the entrance of the development is provided via a walkway and driveway off Balfour Street. The Mobile Garbage bins (MGB's) will be stored on the basement level within the waste storage room **(Refer Appendix B).**

ANTICIPATED WASTE GENERATION, STORAGE & COLLECTION

Waste collection will be provided by Council.

Waste Generation

As per the Ku-Ring-Gai DCP & EPA Better Practice Guidelines for Waste Management, the waste entitlement for multi-dwelling apartments is shown below.

The following table illustrates the typical garbage and recycling generation rates.

Type of Premises	General Land Waste	Comingled Recycling Waste	FOGO Waste
Multi-Dwelling	120L/week/dwelling	240L/week/4 dwellings	1.5L/week/person

Table 4: Typical General and Recycling Waste Generation Rates for Residential Waste

NOTE: Residential calculated rates are based on normal weekly rates Ku-Ring-Gai DCP. Actual usage will vary. The quantity and type of MGB's recommended by council for a 120 multi-dwelling development is listed below.

Waste within Overall Development

Using the garbage and recycling generation rates above, the following can be calculated;

Dwellings (120)

- 120L/dwelling/week garbage waste = 120 x 120 = 14,400L per week (uncompacted)
- 240L/4 dwellings/week comingled recycling waste = 240/4 x 120 = 7,200L per week (uncompacted)
- 1.5L/person/week garbage waste = 1.5 x 314 = 471L per week (uncompacted)

NOTE: FOGO waste generation rates are calculated at 1.0L – 1.5L per person. For this development we have assumed 1 person per bedroom and therefore used the larger 1.5L rate as it is expected in some apartments there will be 2 people per room. Allowance has been made for a larger bin in case this number increases.

Waste Storage and Handling of Waste Streams

Based on the total waste generated by the development, the following Mobile Garbage Bins (MGBs) should be provided:

- 22 x 660L General Waste MGBs – collected and emptied once per week.
- 30 x 240L Mixed Recycling Waste MGBs – collected and emptied once per week.
- 11 x 660L Paper Recycling Waste MGBs – collected and emptied once per week..
- 1 x 660L FOGO Waste MGBs – collected and emptied once per week.

The following table illustrates the typical dimensions of the MGB's mentioned above.

Size (L)	Height (mm)	Width (mm)	Depth (mm)
240L	1,060	585	730
660L	1,200	1,260	780

Table 5: Typical Measurements for NSW (Mobile Garbage Bins) MGB's

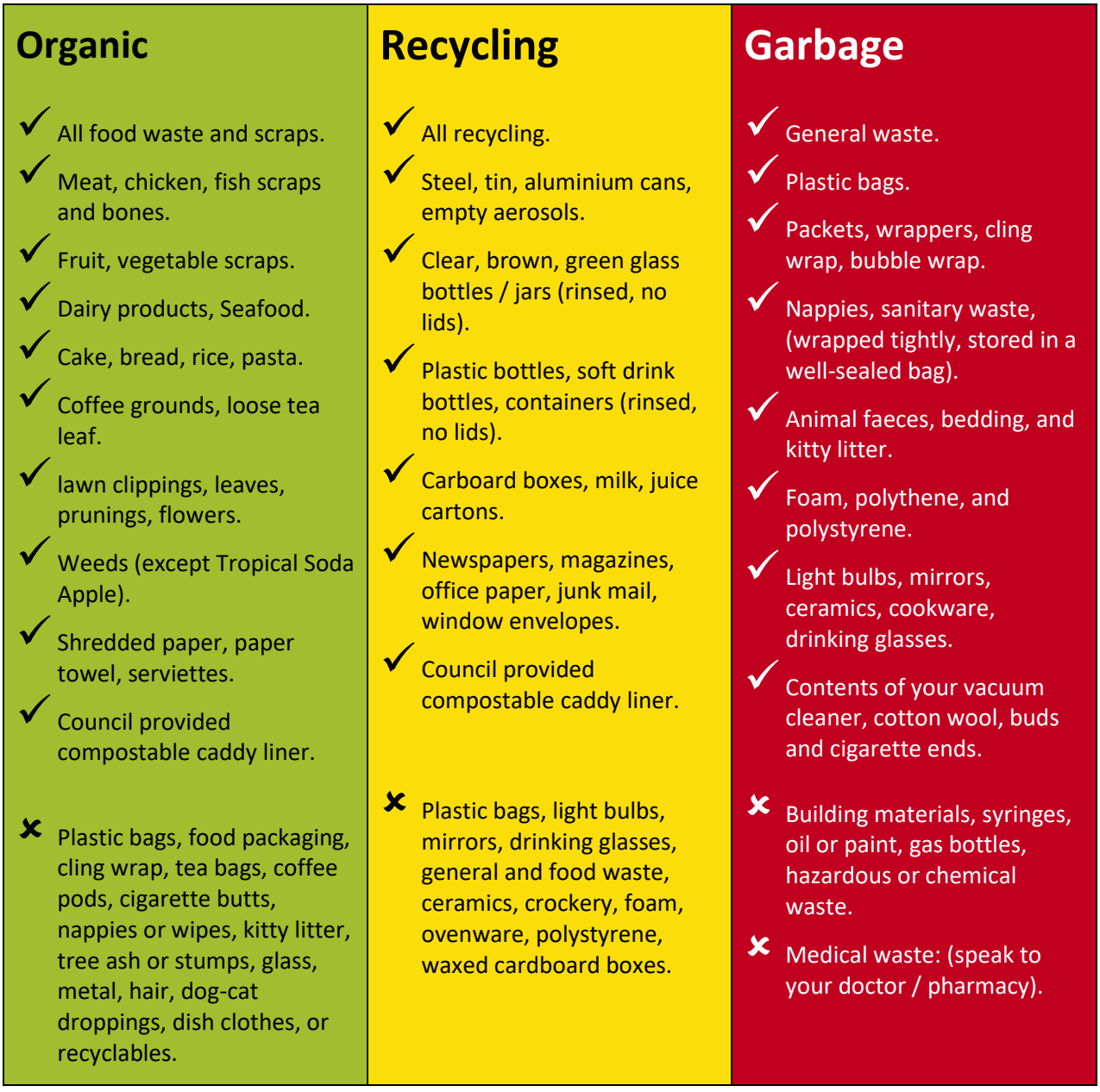


Figure 5: Guidelines for Waste Placement within the MGB's

The following figure illustrates the scaled diagram of the MGB's within the waste storage area.

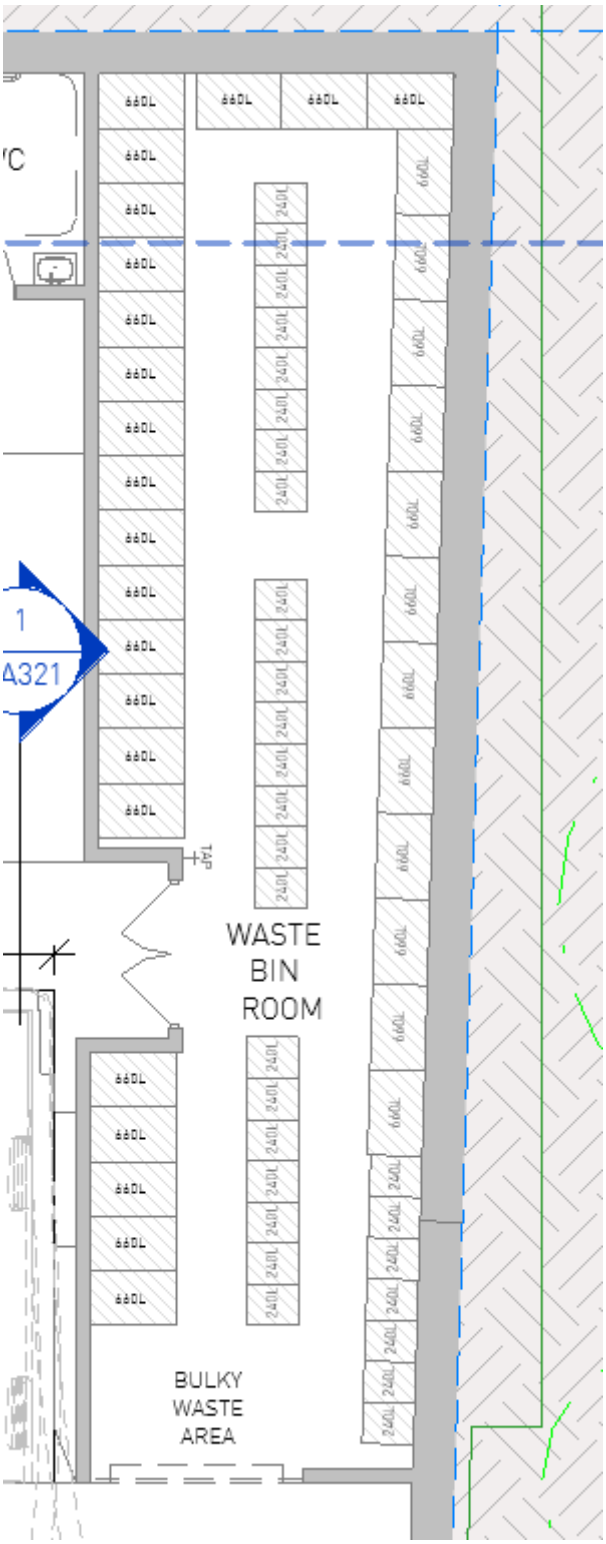


Figure 6: Scaled Diagram of the Waste Storage Area

WASTE COLLECTION (OPERATIONAL WASTE)

Waste collection will be provided by Council.

To help ensure bin collection runs smoothly and enables drivers to pick up, empty and replace the bins safely, it's important to:

- Ensure the bin are not overfilled with the lids shut to avoid spills and to protect it from bugs and animals.

The waste collection vehicle will enter the site from Balfour Street and park in the loading zone next to the waste storage room and collect and empty the MGB's. Once all the MGB's have been emptied and returned to the waste storage room, the waste vehicle will leave the site in a forward motion.
The driveway ramp and the route to the main waste collection area should allow for the manoeuvring of a rear-loading Small Rigid Vehicle (SRV) measuring 6.7m in length, with a minimum head clearance of 2.6m.

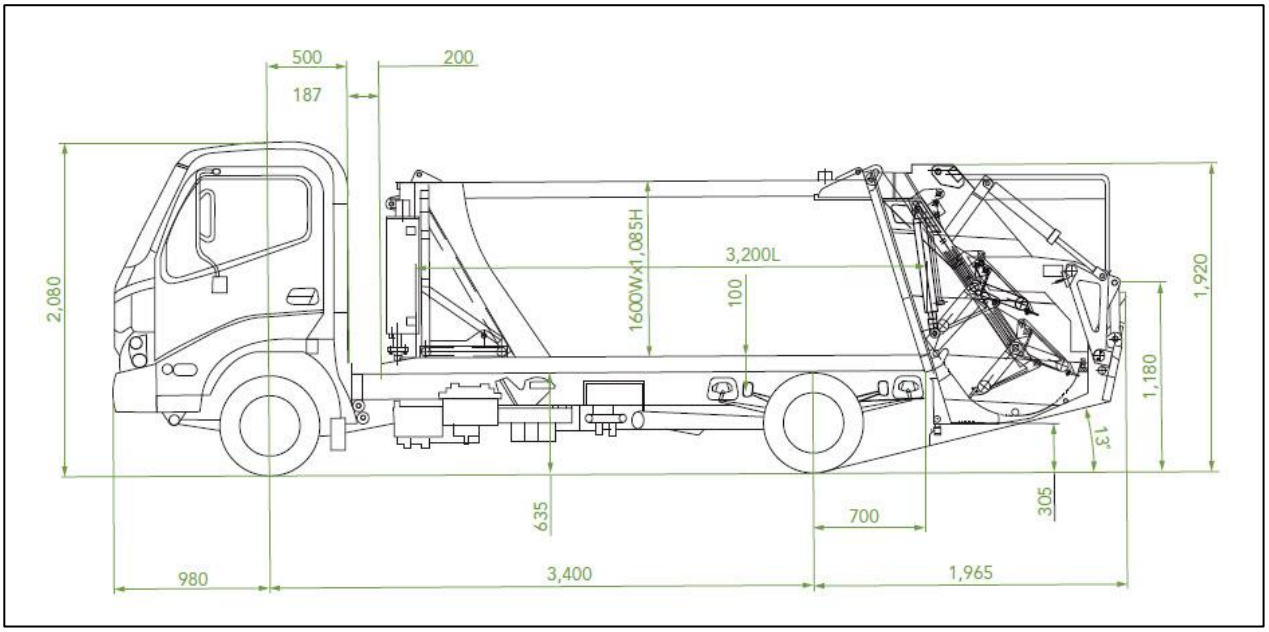


Figure 7: Diagram of a Typical SRV Waste Collection Vehicle

AMENITY

Noise

The only noise generated from the waste management at the property will be that of the MGB's being emptied the MGB's. Any other noise related to the waste management will be kept to a minimum.

Ventilation

The waste storage bin area and 4 rubbish chute areas will have ample ventilation.

Security & Communication Strategy

All MGB's will be secured within the waste storage area.

Tenants will receive detailed documentation detailing all necessary requirements for safe waste management and handling, including all relevant contact information. NOTE: It is recommended that all bins should have appropriate signage showing acceptable and non-acceptable items for each bin.

Waste Storage Enclosures & Cleaning Facilities

The building manager will be responsible for keeping their MGB's clean.

NOTE: It is recommended that the waste areas consist of: **(1)** Impervious coated/treated walls and ground surface, ensuring the ground is graded to the sewer (100 mm diameter) floor drain outlet. **(2)** Tap and hose (hose cock must be protected from the waste containers) for use of cleaning the MGBs and waste area.

Prevention of Vermin

The tenants will be advised to not overfill the bins so that the lids are closed at all times. It is suggested to place rat traps in the corners of the waste storage areas.

MISCELLANEOUS

Internal Waste Storage

It is suggested that sufficient space within the kitchen, should be provided in each dwelling for interim storage of at least one days' worth of garbage and recyclables. Space should allow for separate storage of recyclables from the garbage stream. And ideally the separation of food waste.

Organic (Food/Green) Waste

Food waste can be placed in the FOGO waste bins.

Bulky Waste & E-Waste

Tenants will need to organise with building management with regard to bulky or e-waste collections.

PROPOSED OPERATIONAL PROCEDURES

NOTE: Detailed protocols will be finalized at CC stage with building management.

Internal Waste Handling System

- **Per-Floor Waste Chutes & Recycling Points**
  Each residential level will provide:
  - **Dedicated waste chutes** for general waste, accessible from central corridors. Chutes feature automatic sealing mechanisms to minimise odour and vermin access (Refer Appendix B for chute locations).
  - **Separate recycling stations** on Ground/Lower Ground floors with 240L mobile bins for paper/cardboard, containers (plastic/glass/metal), and food organics (if applicable). Signage aligned with Figure 5 guidelines will be installed at all points.
- **Chute Room Operations**
  Waste storage rooms (Basement Level) will implement:
  - **Daily cleaning protocol** using EPA-approved disinfectants and high-pressure hosing of chute interiors to prevent blockages.
  - **Vermin prevention** through monthly pest inspections, sealed bin enclosures, and strategic rat trap placement (as per Page 18).
  - **Staff training** on spill response, PPE usage, and hazardous material segregation (e.g., batteries, chemicals).

Communal Open Space & Garden Waste

- **Green Waste Management**
  Landscape maintenance will generate organic waste (prunings, leaves) managed via:
  - **On-site processing**: Small branches/foliage mulched for reuse in communal gardens.
  - **Off-site disposal**: Larger volumes collected quarterly by Ecocycle (Appendix A) using 1,100L green waste MGBs stored adjacent to main waste room.
- **Tenant Responsibility**
  Garden waste from private balconies must be bagged in compostable liners and deposited in designated green waste bins.

- **Tenant Education**
  Building management will distribute multilingual waste handling guides at occupancy, including:
  - Chute usage hours (7am-10pm to reduce noise)
  - Prohibited items (e.g., bulky waste, e-waste via Page 19 protocol)
  - Recycling contamination penalties (aligned with Council DCP).
- **Bin Contamination Monitoring**
  Quarterly audits of recycling streams with feedback notices to non-compliant households.

Bulky Waste & E-Waste

- **Collection Protocol**
  Tenants must book appointments via building management for large item removal. Items stored temporarily in marked Basement Zone (Appendix B), collected monthly by Council/Certified contractors to prevent obstruction.

Lower Ground Floor Residents Access to the Waste Chute Room

Residents on the Lower Ground level will dispose of waste directly within the garbage chute room located in the basement on the same level. The waste room is accessed via a secure, internal corridor providing a level and unobstructed path of travel.

Although parking spaces are located within the basement, the pedestrian access path to the waste room is clearly defined and does not require residents to traverse vehicle circulation areas.

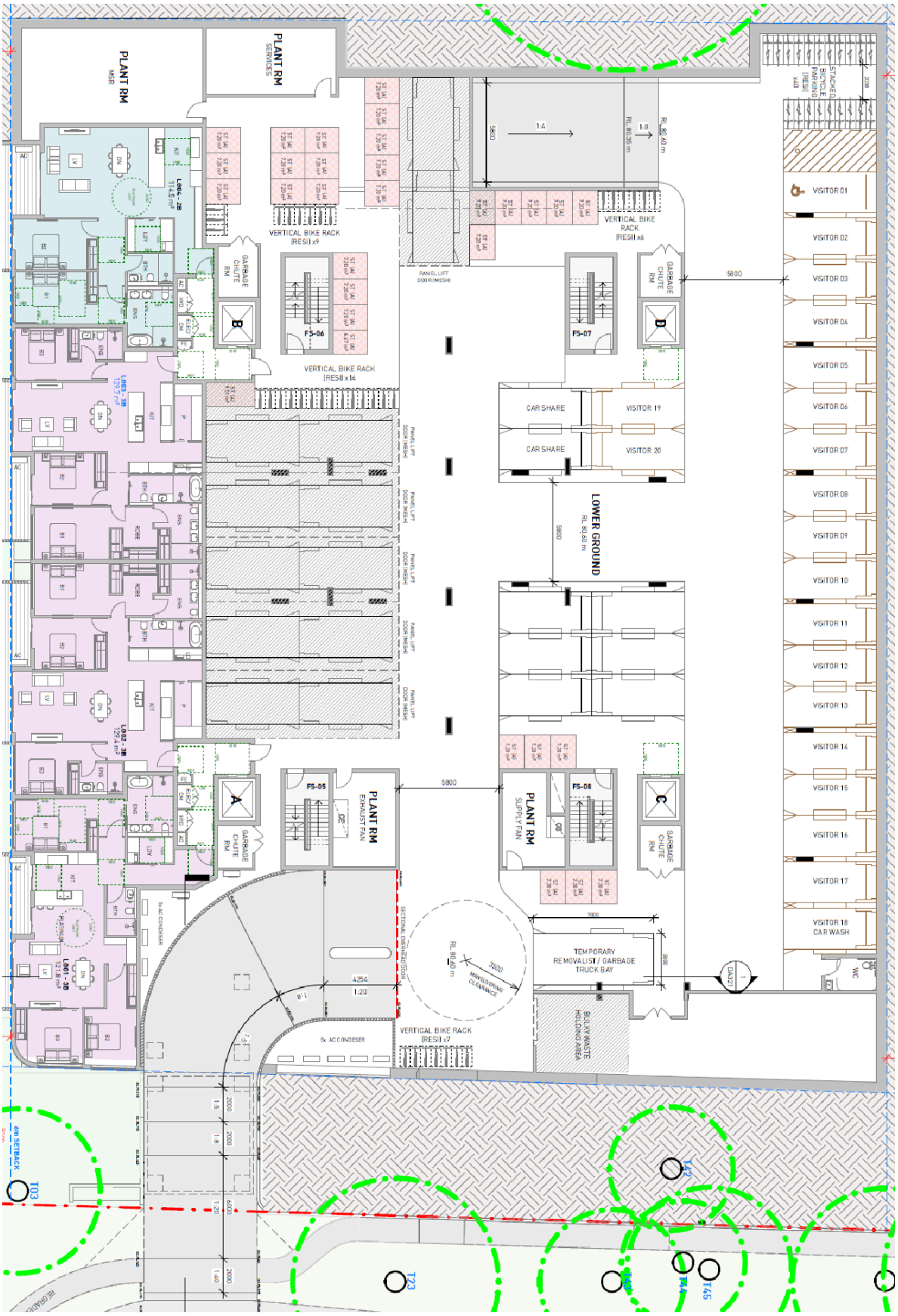
This arrangement provides convenient and equitable access to waste facilities compared to the chute system serving upper levels. The waste room shall be mechanically ventilated and designed in accordance with relevant Australian Standards to manage odour, hygiene and amenity impacts.

APPENDIX A – WASTE MANAGEMENT CONTACTS

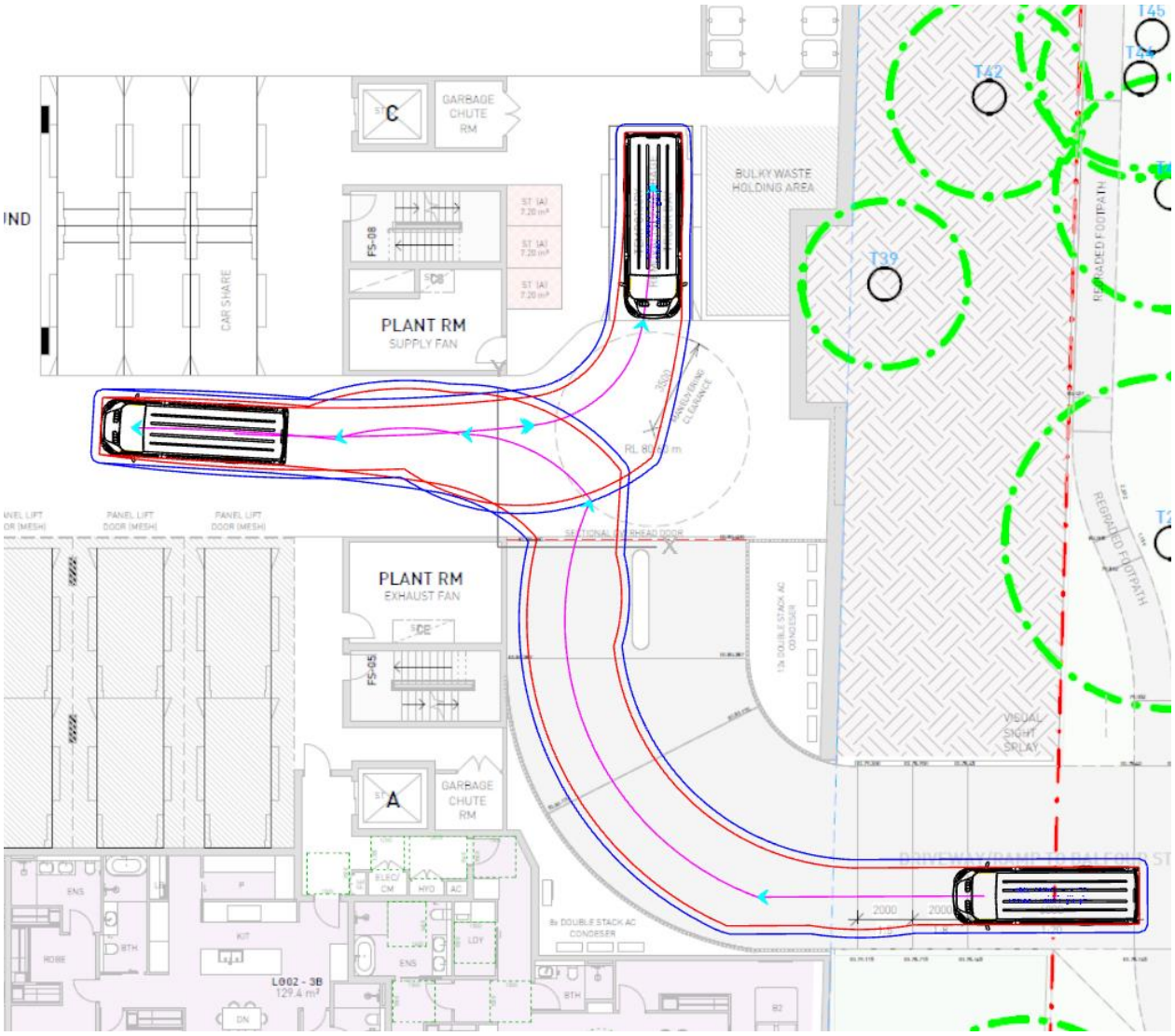
Materials	Company Name	Company Address	Contact Details
Evacuation Material/Soil Waste	Enviroguard	Cnr Mamre & Erskine Parks Roads, Erskine Park	9834 3411
Green Waste	Ecocycle	155 Newton Road, Wetherill Park	9757 2999
Bricks	Brandown	Lot 9 Elizabeth Drive, Kemps Creek	9826 1256
Concrete	Brandown	Lot 9 Elizabeth Drive, Kemps Creek	9826 1256
Timber	Artistic Popular Furniture	10 Raglan Road, Auburn	9644 3054
Metals	Parramatta Scrap Metal	12 North Roack Road, Nth Parramatta	9630 2974
Roof Tiles	Obsolete Tiles	3 South Street, Rydalmere	9684 6333
Door Fittings	Recycling Works	45 Parramatta Road, Annandale	9517 2711
Plastics	Cromford	120-122 Ballandella Road Pendle Hill	9631 6644
Plasterboard	Ecocycle	155 Newton Road, Wetherill Park	9757 2999
Fibro Containing Asbestos	Enviroguard	Cnr Mamre & Erskine Parks Roads, Erskine Park	9834 3411
Hazardous Chemicals	Cleanaway	40 Christie Street, St Marys	9851 4200

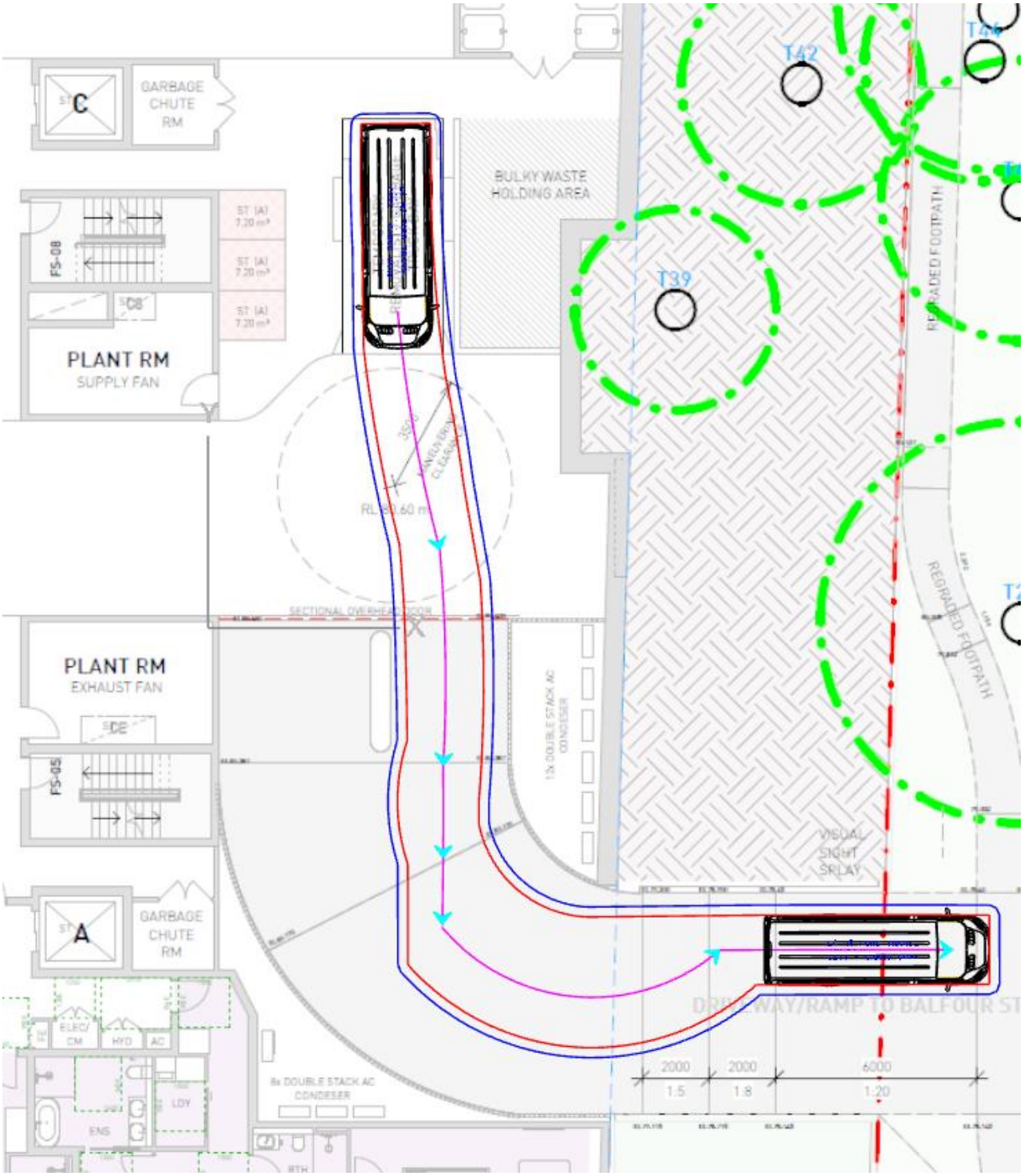
NOTE: Disposal of hazardous chemicals is regulated and must be tracked (Certified Trackable Waste Transporter) under the chain of custody and chain of responsibilities, philosophies with the site manager ultimately responsible for logistics and all waste generated on site.

APPENDIX B – LOWER GROUND FLOOR PLAN



APPENDIX C – SWEPT PATH DIAGRAM – 6.7M COUNCIL WASTE COLLECTION VEHICLE




C
GARBAGE CHUTE RM
BULKY WASTE HOLDING AREA
T42
T39
PLANT RM
SUPPLY FAN
FS-08
PLANT RM
EXHAUST FAN
FS-05
A
GARBAGE CHUTE RM
SECTIONAL OVERHEAD DOOR
12x DOUBLE STACK AC CONDENSER
8x DOUBLE STACK AC CONDENSER
VISUAL SIGHT SPLAY
2000
2000
6000
1:5
1:8
1:20