

# 57 Banana St, Redland Bay: Waste Management Plan

A Submission to HAL Architects on behalf of Bella  
Baia Pty Ltd

28<sup>th</sup> September 2022



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### Version History

| Ver | Date     | Status | Author          | Approver       | Signature   |
|-----|----------|--------|-----------------|----------------|---|
| 0.1 | 14/09/22 | Draft  | Louisa McMullan | James Cosgrove | -   |
| 0.2 | 20/09/22 | Review | James Cosgrove  | -              | -   |
| 1   | 28/09/22 | Final  | Louisa McMullan | James Cosgrove |  |

### Disclaimer

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In the spirit of reconciliation MRA Consulting Group acknowledges the Traditional Custodians of country throughout Australia and their connection to land, sea and community. We pay our respects to Aboriginal and Torres Strait Islander peoples and to Elders past, present and emerging.

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## Glossary

| Terminology | Definition   |
|-------------|--|
| AS          | Australian Standard  |
| C&D         | Construction and Demolition  |
| C&I         | Commercial and Industrial  |
| DA          | Development Application  |
| DC          | Development Consent  |
| ENM         | Excavated Natural Material   |
| EPA         | Environment Protection Authority   |
| LGA         | Local Government Area  |
| MGB         | Mobile Garbage Bin   |
| MSW         | Municipal Solid Waste (also referred to as domestics or residential waste) |
| RCC         | Redland City Council   |
| RCP         | Redland City Plan  |
| VENM        | Virgin Excavated Natural Material  |
| WMP         | Waste Management Plan  |
| WNDCP       | Waste Not Development Control Policy                                       |
| WSP         | Waste Service Provider   |
| WSRA        | Waste Storage and Recycling Area   |



# 1 Introduction

MRA Consulting Group (MRA) was engaged by HAL Architects on behalf of Bella Baia Pty Ltd to prepare a Waste Management Plan (WMP) related to the proposed development at 57 Banana St, Redland Bay in Queensland. The site is situated in the Redland City Council (RCC) Local Government Area (LGA).

The project involves a new eight storey multi-unit residential development, with basement car parking.

This WMP addresses the requirements of the Consent Authority (Council) and conforms to the following reference documents:

- The Redland City Plan (RCP) 2018.
- Planning Scheme Policy 2 – Infrastructure Works (specifically Section 2.4 Waste Management).

This WMP is used to inform the building design to deliver best practice waste management and promote sustainable outcomes at the demolition, construction and operational phases of the development. The WMP addresses waste generation and storage associated with excavation, demolition and construction works throughout the development, and ongoing occupation of the proposed use.

## 2 Background

### 2.1 Description of Proposed Development

The proposed development site is 57 Banana Street, Redland Bay identified as Lot 8 of RP 80201.

The proposed development will feature:

- Demolition of existing residential building;
- Excavation of one level for basement parking;
- Site preparation and removal of some vegetation;
- Construction of an eight-storey residential flat building, comprising:
  - One level of basement car parking (with additional parking on ground floor level);
  - A mix of 17, two and three bedroom units across six levels.
  - Private terraces and landscaping.

The site is largely surrounded by single residential dwellings to the west, and car parking for the Redland Bay Marina which is located to the east. Recreation areas are located to the north, including the Neville Stafford Park.

The following is an aerial view of the site and surrounds (see Figure 1).

Figure 1: Proposed development in relation to surrounding area



Source: Redland City Maps

## 2.2 Zoning and Land Use

The site is zoned Medium Density Residential (See Figure 2) in the RCP 2018.

Figure 2: Zoning and land use



Source: Redland City Maps

## 2.3 Assumptions

This report is a Waste Management Plan (WMP), forming part of the development documentation and assumes:

- Drawings and information that have been used in waste management planning for this WMP are the final reference/indicative development plan from the project architect, HAL Architects, dated 15/09/2022.
- Redland City Council *PSP2 – 2.4 Waste Management*, outlines waste generation rates and services available for new developments which have been considered in the preparation of this report; and
- This WMP is a living document and therefore, waste management equipment and systems described in this report are subject to change based on future operations and available technology.



## 3 Demolition and Construction Waste

Demolition and construction activities at the site will generate a range of construction and demolition (C&D) wastes. Throughout the development process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or recycling processes.

Waste storage during construction operations will involve some stockpiling and separation of reusable material, as well as placement of skip bins for the separation of construction materials for recycling. A skip bin for residual waste or contaminated material will also be made available at the site for disposal where necessary. Skip bins may require alternative placement across construction operations to facilitate the safe and efficient storage of materials and will be retained within property boundaries to avoid illegal dumping.

A waste storage area shall be designated by the demolition and construction contractor and shall be sufficient to store the various waste streams expected during operations. Waste storage areas will be kept clear to maintain vehicular access and shall also be kept tidy to encourage separation of waste materials and for WHS reasons. A potential location for skip bins and material stockpiles has been identified in Appendix B.

Waste management principles, management measures and facilities in use on the site shall be included as part of the site induction for all personnel working on the site.

### 3.1 Demolition

This section details the demolition waste materials expected for the proposed development, including their quantities and management options, and was designed with consideration of the requirements in the RCP 2018. The information below presents options for materials reuse, recycling and disposal where applicable. All materials are intended to be sent to a suitable, licensed landfill or resource recovery facility.

Table 1 below describes the expected demolition material quantities and appropriate management methods for the proposed development, related to the demolition or deconstruction of a single residential dwelling and some interspersed vegetation.

Table 1: Demolition waste material by volume

| Type of waste generated          |          | Quantity            | Reuse | Recycling | Disposal | Methods for reuse, recycling and disposal  |
|----------------------------------|----------|---------------------|-------|-----------|----------|--|
| Concrete                         |          | 50-70m <sup>3</sup> | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>C&D processor: crushing and recycling for recovered products (aggregates).   |
| Bricks/pavers                    |          | 20-40m <sup>3</sup> | ✓     | ✓         | -        | On site: cleaned and separated wherever possible for reuse or to enhance resource recovery.<br>C&D processor: recovery for reuse where possible, crushing and recycling for recovered aggregate products.  |
| Tiles                            | Roof     | 30-50m <sup>3</sup> | ✓     | ✓         | -        | On site: cleaned and separated wherever possible for reuse or to enhance resource recovery.  |
|                                  | Interior | <10m <sup>3</sup>   | ✓     | ✓         | -        | C&D processor: recovery for reuse where possible, crushing and recycling for recovered aggregate products.   |
| Timber (engineered/<br>treated)  |          | <2m <sup>3</sup>    | -     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse.<br>C&D processor: recovery and recycling for recovered product (e.g. mulch) or organics processing. |
| Metals (ferrous and non-ferrous) |          | <5m <sup>3</sup>    | -     | ✓         | -        | Onsite: to be separated wherever possible to enhance resource recovery.<br>C&D processor: metals recovery and recycling.   |
| Plasterboard                     |          | <5m <sup>3</sup>    | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse.   |
| Glass                            |          | <2m <sup>3</sup>    | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.   |

| Type of waste generated  | Quantity         | Reuse | Recycling | Disposal | Methods for reuse, recycling and disposal  |
|--|------------------|-------|-----------|----------|--|
|  |                  |       |           |          | Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>Glass recycler: recovery and recycling.   |
| Fixtures and fittings  | <5m <sup>3</sup> | ✓     | ✓         | -        | On site: reuse wherever possible or return to manufacturer.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>C&D processor: recovery and recycling.               |
| Floor coverings  | <5m <sup>3</sup> | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>C&D processor: recovery and recycling.  |
| Garden organics (Vegetation)                                   | <5m <sup>3</sup> | ✓     | ✓         | -        | Garden organic waste from landscaping.<br>Organics processor: storage on-site (from minor excavations) processing for recovered product (e.g. mulch or other blended recovered fines) or organics treatment. |
| Residual waste (general refuse)                                | <5m <sup>3</sup> | -     | -         | ✓        | Separate recyclables where possible and disposal at principal licensed waste facility.   |
| Hazardous/ special waste (e.g. spills and contaminated wastes) | Unknown          | -     | -         | ✓        | Management by a licensed asbestos and site hygienist should hazardous or special waste be found at the site.   |

## 3.2 Construction

The proposed development will feature:

- Excavation of one level for basement parking;
- Site preparation and removal of some vegetation;
- Construction of an eight-storey residential flat building, comprising:
  - One level of basement car parking (with additional parking on ground floor level);
  - A mix of two and three bedroom units across six levels.
  - Private terraces and landscaping.

Table 2 outlines indicative volume to weight conversion factors for common construction materials.

**Table 2: Building waste material by percentage and conversion factor for volume and weight**

| Building waste material | Tones per m <sup>3</sup> | Waste as % of the total material ordered |
|-------------------------|--------------------------|--|
| Bricks                  | 1                        | 5-10%                                    |
| Concrete                | 2.4                      | 3-5%                                     |
| Tiles                   | 0.75                     | 2-5%                                     |
| Timber                  | 0.5                      | 5-7%                                     |
| Plasterboard            | -                        | 5-20%                                    |
| Ferrous metal           | 2.4                      | -  |

Source: Parramatta Waste Management Plan Application Template 2017.

Table 3 outlines the expected construction waste quantities for materials through construction of the proposed new development in addition to the appropriate management methods for each material type.

The information below presents multiple options for materials reuse, recycling and disposal where applicable (e.g. return to manufacturer, recycled at construction and demolition (C&D) processor, or disposed to landfill if contaminated).



**Table 3: Construction waste material by volume**

| Type of waste generated          | Quantity                  | Reuse | Recycling | Disposal | Methods for reuse, recycling and disposal  |
|----------------------------------|---------------------------|-------|-----------|----------|--|
| Excavation material              | 2,000-2,300m <sup>3</sup> | ✓     | ✓         | -        | On site: testing (if necessary) for contamination and stockpiling of material for reuse as fill material. Reuse onsite for backfilling or landscaping.<br>C&D processor: reuse/ recycling of VENM and ENM<br>Landfill if contaminated.                 |
| Concrete                         | <50m <sup>3</sup>         | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>C&D processor: crushing and recycling for recovered products (aggregates).   |
| Bricks/pavers                    | <20m <sup>3</sup>         | ✓     | ✓         | -        | On site: cleaned and separated wherever possible for reuse or to enhance resource recovery.<br>C&D processor: recovery for reuse where possible, crushing and recycling for recovered aggregate products.  |
| Tiles (Interior)                 | <2m <sup>3</sup>          | ✓     | ✓         | -        | On site: cleaned and separated wherever possible for reuse or to enhance resource recovery.<br>C&D processor: recovery for reuse where possible, crushing and recycling for recovered aggregate products.  |
| Timber (engineered/ treated)     | <5m <sup>3</sup>          | -     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse.<br>C&D processor: recovery and recycling for recovered product (e.g. mulch) or organics processing. |
| Metals (ferrous and non-ferrous) | <1m <sup>3</sup>          | -     | ✓         | -        | Onsite: to be separated wherever possible to enhance resource recovery.<br>C&D processor: metals recovery and recycling.   |
| Plasterboard                     | <5m <sup>3</sup>          | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.   |

| Type of waste generated  | Quantity         | Reuse | Recycling | Disposal | Methods for reuse, recycling and disposal  |
|--|------------------|-------|-----------|----------|--|
|  |                  |       |           |          | Reuse: surplus and offcut material returned to manufacturer for reuse.   |
| Glass  | <2m <sup>3</sup> | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>Glass recycler: recovery and recycling. |
| Fixtures and fittings  | <1m <sup>3</sup> | ✓     | ✓         | -        | On site: reuse wherever possible or return to manufacturer.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>C&D processor: recovery and recycling.               |
| Floor coverings  | <5m <sup>3</sup> | ✓     | ✓         | -        | On site: to be separated wherever possible to enhance resource recovery.<br>Reuse: surplus and offcut material returned to manufacturer for reuse where possible.<br>C&D processor: recovery and recycling.  |
| Garden organics (Vegetation)                                   | <2m <sup>3</sup> | ✓     | ✓         | -        | Garden organic waste from landscaping.<br>Organics processor: storage on-site (from minor excavations) processing for recovered product (e.g. mulch or other blended recovered fines) or organics treatment. |
| Containers (cans, plastic, glass)                              | <1m <sup>3</sup> | -     | ✓         | -        | Commercial contractor: recycling.  |
| Paper/ cardboard   | <1m <sup>3</sup> | -     | ✓         | -        | Commercial contractor: segregation of paper, cardboard or other streams.   |
| Residual waste (general refuse)                                | <5m <sup>3</sup> | -     | -         | ✓        | Separate recyclables where possible and disposal at principal licensed waste facility.   |
| Hazardous/ special waste (e.g. spills and contaminated wastes) | Unknown          | -     | -         | ✓        | Management by a licensed asbestos and site hygienist should hazardous or special waste be found at the site.   |

### 3.3 Waste Contractors and Facilities

To ensure best practice waste management, appropriate contractors and facilities have been proposed based on their location and service offerings (Table 4).

**Table 4: Waste service contractors and facilities**

| Role                                    | Details   |
|---|---|
| Recommended Waste Collection Contractor | <p>The following are local skip bin operators for consideration in the management of excavation and construction waste for the site:</p> <ul style="list-style-type: none"><li>• Pro Skip Bins Brisbane;</li><li>• Big Bins;</li><li>• Magic Bins; and</li><li>• United Waste Services.</li></ul> <p>Or another supplier as elected by the building contractor.</p> |
| Principal Off-Site Recycler             | <p>The following are local C&amp;D processing facilities for consideration in the management of C&amp;D waste generated at the site:</p> <ul style="list-style-type: none"><li>• Redland Bay Recycling and Waste Centre</li></ul> <p>Or another appropriate facility as elected by the waste management contractor.</p>   |
| Principal Licensed Landfill Site        | <ul style="list-style-type: none"><li>• Redland Bay Recycling and Waste Centre</li></ul> <p>Or other appropriate facility as elected by the waste management contractor.</p>  |

### 3.4 Site Documentation

This WMP will be retained on-site during the excavation and construction phases of the development, along with other waste management documentation (e.g. contracts with waste service providers).

Responsibility for the WMP, waste documentation and processes during the excavation and construction phases will be with the site manager or builder.

A logbook that records waste management and collection will be maintained on site, with entries including:

- Time and date of collections;
- Description of waste and quantity;
- Waste/processing facility that will receive the waste; and
- Vehicle registration and company name.

Waste management documentation, the logbook and associated dockets and receipts must be made available for inspection by an authorised Council Officer at any time during site works.

## 4 Use & Ongoing Waste Management

Waste management strategies related to site operations have been established according to the Redlands City Plan (RCP) 2018. Waste generated at the site relates to the residential use.

The residential waste service will be carried out by Redland City Council or a private waste contractor, with collection schedule for each option as follows –

- **Council:**
  - General waste bins – collected weekly.
  - Comingled recycling and green waste bins – collected fortnightly, on alternate weeks.
- **Private contractor:**
  - General waste bins – collected weekly.
  - Comingled recycling bins – collected weekly.

Waste generation for the operational phase of the development will be addressed in applying waste generation rates outlined in Section 4.1. Waste storage and recycling areas were determined with reference to waste generation rates and have been addressed in Section 4.2. Waste loading areas have been identified in Section 4.3. Site waste management responsibilities have been outlined in Section 5.3

### 4.1 Waste Generation

The PSP2 - Infrastructure works provides waste generation rates for multiple dwellings (3 stories or more).

Waste generation rates for multiple dwellings according to the PSP2 are:

- 100L of general waste per dwelling per week; and
- 70L of recycling waste per dwelling per week.
- 1 x 240L green waste bin per 100m<sup>2</sup> of communal open space and landscaping.

From the above requirements and expectations, the following site-specific waste generation rates have been derived, based on the assumption that each waste stream would be collected on a weekly basis:

**Table 5: Site Waste Generation**

| Dwelling units | Waste stream  | Generation rate    | Total weekly generation |
|----------------|---------------|--------------------|-------------------------|
| 17             | General Waste | 100L/dwelling/week | 1,700L                  |
|                | Recycling     | 70L/dwelling/week  | 1,190L                  |

Around 70m<sup>2</sup> of deep planting provision is allocated to the development and based on the above, the development may wish to retain a single bin for green waste. Alternatively, an external contractor used to maintain landscaping at the development will be able to remove all green waste from the site as part of their service arrangement.

### 4.2 Waste Storage Requirements

Table 6 below outlines the standard bin sizes utilised for residential waste in Redland City Council area, including dimensions for each. Waste storage areas on site have been designed to facilitate waste according to the waste generation rates outlined in Section 4.1.

**Table 6: Waste bin sizes**

| Bin Type    | Bin Capacity (L) | Truck Type | Length (mm) | Width (mm) | Height (mm) |
|-------------|------------------|------------|-------------|------------|-------------|
| Wheelie Bin | 140 (waste only) | Side lift  | 560         | 610        | 920         |



| Bin Type | Bin Capacity (L)     | Truck Type | Length (mm) | Width (mm) | Height (mm) |
|----------|----------------------|------------|-------------|------------|-------------|
|          | 240                  | Side lift  | 740         | 580        | 1100        |
|          | 340 (recycling only) | Side lift  | 840         | 650        | 1080        |
| Bulk bin | 660                  | Rear lift  | 1260        | 780        | 1400        |
|          | 1100                 | Rear lift  | 1240        | 1070       | 1330        |
|          | 1500                 | Front lift | 2040        | 1041       | 1330        |
|          | 2250                 | Front lift | 2020        | 1441       | 1430        |
|          | 3000                 | Front lift | 2040        | 1441       | 1460        |
|          | 4000                 | Front lift | 2040        | 1631       | 1700        |

Source: Redland City Council, PSP2 - Infrastructure

#### 4.2.1 Waste Storage Requirement

The Waste Storage and Recycling Area (WSRA) is located on the ground floor of the development and adjacent to the on-site loading area. The WSRA space requirement is calculated in Table 7, in accordance with the *PSP2 – Infrastructure*.

Table 7: Bin allocation and space requirement

| Waste stream  | Weekly waste volume | Collection frequency | Bin options using 660L bins   | Min. footprint required* |
|---------------|---------------------|----------------------|-------------------------------|--------------------------|
| General Waste | 1,700L              | Weekly               | 3 x 660L bin                  | 5m <sup>2</sup>          |
| Recycling     | 1,190L              | Weekly / Fortnightly | 2 x 660L bins / 4 x 660L bins | 3.5m <sup>2</sup>        |
| Total         |                     |                      |                               | 8.5m <sup>2</sup>        |

\*Additional space (approx. footprint x 1.5) has been applied to the total space requirement for clearance and manoeuvring of bins.

A common WSRA of approximately 9m<sup>2</sup> is provided on the ground floor. The development proposes bulk bins for efficient storage and collection.

#### 4.2.2 Chute Compartment

Each dwelling is to be able to store a minimum of one day's waste and recycling generated. A chute compartment with a diverter for general waste and recycling is installed on each residential level of the building. The disposal point/chute inlet will be designed to comply with the requirements of the RCP. Waste is then deposited into the ground level chute room (see Appendix A). Chutes will be designed to minimise noise and odour impacts to residents. Residents will be responsible for the transfer of waste from the dwelling to the respective chute inlet.

#### 4.2.3 Ground Level Chute Room

A chute room is located at the ground floor of the development. The room will accommodate the general waste chute outlet under which 660L bins will be situated at all times. All stored waste will be contained in bulk bins with a tight fitting lid and smooth, washable internal surface. The waste chute will be installed in accordance with the NCC and BCA requirements and manufacturers technical specifications. The chute is to be fitted with a shutter at the base of the chute for closing off manually during bin exchange and in case of fire.

Additional empty bins will be retained in the chute room to be swapped out with full bins, and to ensure continuous disposal at collection times. Bins can be mounted on a linear track for easy rotation or be manually rotated when full. The chute room will have restricted access to prevent residents from damaging the equipment.

### 4.3 Waste Loading and Collection

The development proposes on-site waste collection of bins as per the PSP2 – Infrastructure, adjacent to the bin storage area. The waste loading and collection area can be viewed at Appendix A. The building manager will be required to organise the transporting of bins to the servicing point for collection and return to bin storage area following Council collection. Council's waste service collection for the Redland Bay area is:

- General waste bin – collected each Thursday.
- Comingled recycling and green waste bin collected on alternate weeks, each Thursday.

The development will provide unobstructed overhead space for the rear lift collection vehicle, which requires a minimum of 4m for servicing. Collection will occur from an identifiable area where residents, visitors and site staff can recognise and avoid any risk associated with moving vehicles, bin moving and handling.

The table below outlines the requirements for waste collection and loading areas:

**Table 8: Collection points and loading areas requirements and specifications**

| Component                             | Requirement  | Specification  |
|---------------------------------------|--|--|
| Collection point                      | Allow safe waste collection and loading operations   | <ul style="list-style-type: none"> <li>- Adequate clearance and manoeuvring space (4m);</li> <li>- Sufficient clearance for the safe handling of materials and equipment; and</li> <li>- Sectioned loading bay does not impede upon traffic and pedestrian safety.</li> </ul>  |
| Vehicle manoeuvring and loading space | Truck space for adequate lift clearance, manoeuvring and operation for a contractor collection vehicle | <ul style="list-style-type: none"> <li>- Collection from each site use loading area by a rear lift collection vehicle;</li> <li>- Adequate loading bay dimensions to not impede lift clearance;</li> <li>- Operational clearance for truck manoeuvring in a forward direction; and</li> <li>- The provision of space clear of vehicle parking spaces.</li> </ul> |

## 5 Equipment Waste Management Systems

### 5.1 Waste Management System Summary

The following specific management methods are proposed for the various collection waste streams expected to be generated at the site, including alternative waste streams outside of general waste, recycling and organics:

- **General Waste:** General waste shall be placed within a tied plastic bag prior to transferring into collection bins. For collection purposes, general waste shall be stored within a wheelie bin or bulk bin provided.
- **Commingled Recycling:** All recyclables will be stored in commingled bins (mixed plastic, paper, cardboard, glass, aluminium, steel). All recyclables should be decanted loose (not bagged) with containers un-capped, drained and rinsed prior to disposal into the recycling bin. Paper should be flattened and placed in paper and cardboard bin if available.
- **Food Waste:** Residents may opt to separate food organics waste generation from the development, which can be collected and treated on-site at small scale should management/residents decide to do so. Equipment options include different size and capacity composters, dehydrators, worm farms and macerators.

Alternatively, tenants can make arrangements for the separate collection of its organics by its waste management contractor. Food waste can be stored in 240L sealed bins or refrigerated waste storage prior to collection.

- **Other (Problem) Waste:** The disposal of hard, bulky, electronic, liquid or potentially hazardous wastes shall be organised by prebooking a hard waste collection cleanup with Council. Alternatively, residents may drop off problem wastes at a nearby Waste and Recycling Centre, such as the nearby centre at 761 German Church Rd, Redland Bay.

### 5.2 Waste Management and Recycling Method

The flow of general waste and recycling goes from generation to collection through several steps:

1. Waste is temporarily stored at its point of generation in an appropriately sized receptacle, clearly marked for type of waste;
2. Residents to transfer waste to the respective waste chute or recycling room on the ground floor level for appropriate disposal into the respective bin.
3. Site management are responsible for maintenance of bins and the waste storage rooms, ensuring bins are clean and in working order. Site management are also responsible for carting and presentation of bins at the kerbside prior to collection, and once bins are collected back to the WSRA.

### 5.3 Management System and Responsibilities

The building manager will be responsible for the management of waste at the site. Should there be any issues that impact on the operational efficiency, safety and suitability of waste management, management will be responsible for making any necessary changes, responsibilities include:

- Using this WMP to inform waste management operations, design and infrastructure;
- Providing educational materials to residents and information on sorting methods for recycled waste, awareness of waste management procedures for waste minimisation and resource recovery;
- Making information available to residents and visitors about waste management procedures.
- Organising, maintaining and cleaning bins as part of a regular maintenance schedule;
- Manoeuvring bins to specified onsite collection point prior to and following scheduled collection of waste bins;
- Organising bulky waste collections as required;
- Ensuring bin allocation and waste/recycling collection frequency is adequate. Requesting additional infrastructure or services where necessary; and

- Monitoring any vermin and pest issues and arranging appropriate controls (traps or fumigating) and maintenance of doors or other points of potential entry.

## 5.4 Signage and Education

Signage that promotes resource recovery, waste minimisation, safety and amenity follows the Australian Standard for safety signs for the occupational environment (Standards Australia, 1994).

Signage will be designed to consider language and non-English speaking backgrounds, vision impairment and accessibility. Illustrative graphics must form a minimum 50% of the area of the signage. Signage is to be prominently posted in the waste room indicating:

- Details regarding acceptable recyclables;
- Recyclables are to be decanted loose (not bagged);
- No standing and danger warnings apply to the area surrounding the waste storage area;
- Contact details for arranging the disposal of bulky items; and
- The area is to be kept tidy.

Standard signage requirements and guidance for application apply (see Appendix C).

## 5.5 Prevention of Pollution, Illegal Dumping and Litter Reduction

To minimise dispersion of litter and prevent pollution (to water and land via contamination of runoff, dust and hazardous materials), building management and the site cleaning staff will also be responsible for:

- Maintenance of communal areas and bin storage areas;
- Ensuring waste room is well maintained and kept clean;
- Securing the waste storage areas from vandalism and the escape of litter;
- Identification and appropriate disposal of goods with hazardous material content (paints, e-waste, fluorescent tubes);
- Taking action to prevent dumping and unauthorised use of waste areas; and
- Requiring contractors to clean up any spillage that may occur during waste servicing or other work.



## 6 References

Australian Building Codes Board (2016) National Construction Code (NCC).

Department of Environment, Climate Change & Water (2010) House deconstruction fact sheet: Bricks and concrete removal.

Department of the Environment (2016) Working together to reduce food waste in Australia, Australian Government.

Environment Protection and Heritage Council (2009) National Waste Policy: Less Waste, More Resources.

Available at: <http://www.nepc.gov.au/system/files/resources/906a04da-bad6-c554-1d0d-45216011370d/files/wastemgt-rpt-national-waste-policy-framework-less-waste-more-resources-print-ver-200911.pdf>.

Queensland Government (2018) Recycling Signs, Posters and Symbols. Available at:

<https://www.qld.gov.au/environment/pollution/management/waste/recovery/recycling/signage>.

Standards Australia (1994) AS 1319: Safety signs for the occupational environment, Homebush, NSW: Standards Australia.

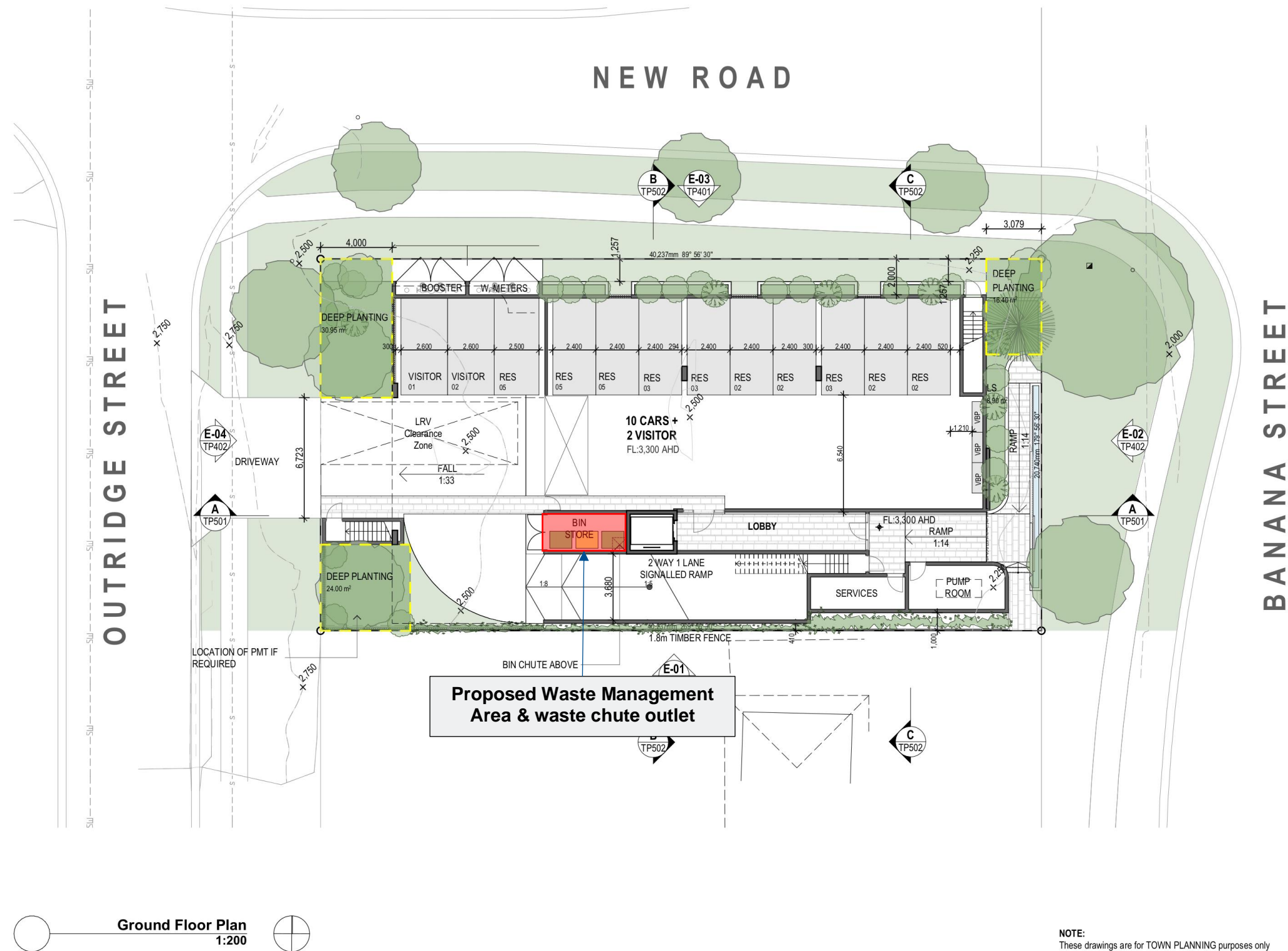
Standards Australia (2008) AS 4123 Mobile waste containers.

The Redland City Plan 2018

WorkSafe QLD (2011) Hazardous Manual Tasks Code of Practice.

# Appendix A Site Plans

Figure 3: Proposed ground floor plan



**TOWN PLANNING**

**General Notes**

This drawing is Copyright © Any design or drawing is not to be reproduced, either in whole or part, without written permission by Hayes Anderson Lynch Architects Pty. Ltd. Confirm all dimensions on site. Do not scale off drawings. All levels are approximate only and are subject to confirmation by licensed surveyor. All workmanship, materials and construction to comply with the Queensland Building Act 1975, the Queensland Development Code, the Building Code of Australia 2019, Premises Standard and AS1428.1. Work to be carried out in a neat and appropriate manner. Where ambiguities or discrepancies exist, Hayes Anderson Lynch Architects Pty. Ltd. shall be contacted for clarification.

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ADAPTABLE UNIT

| Date     | Issue Details               | Checked |
|----------|-----------------------------|---------|
| 15/09/22 | E IR Response               | EA      |
| 01/09/22 | D Prelim IR Response        | EA      |
| 20/07/22 | C Updated Facade            | EA      |
| 14/07/22 | B Deterioration tanks added | EA      |
| 09/06/22 | A Lodgement Issue           | EA      |

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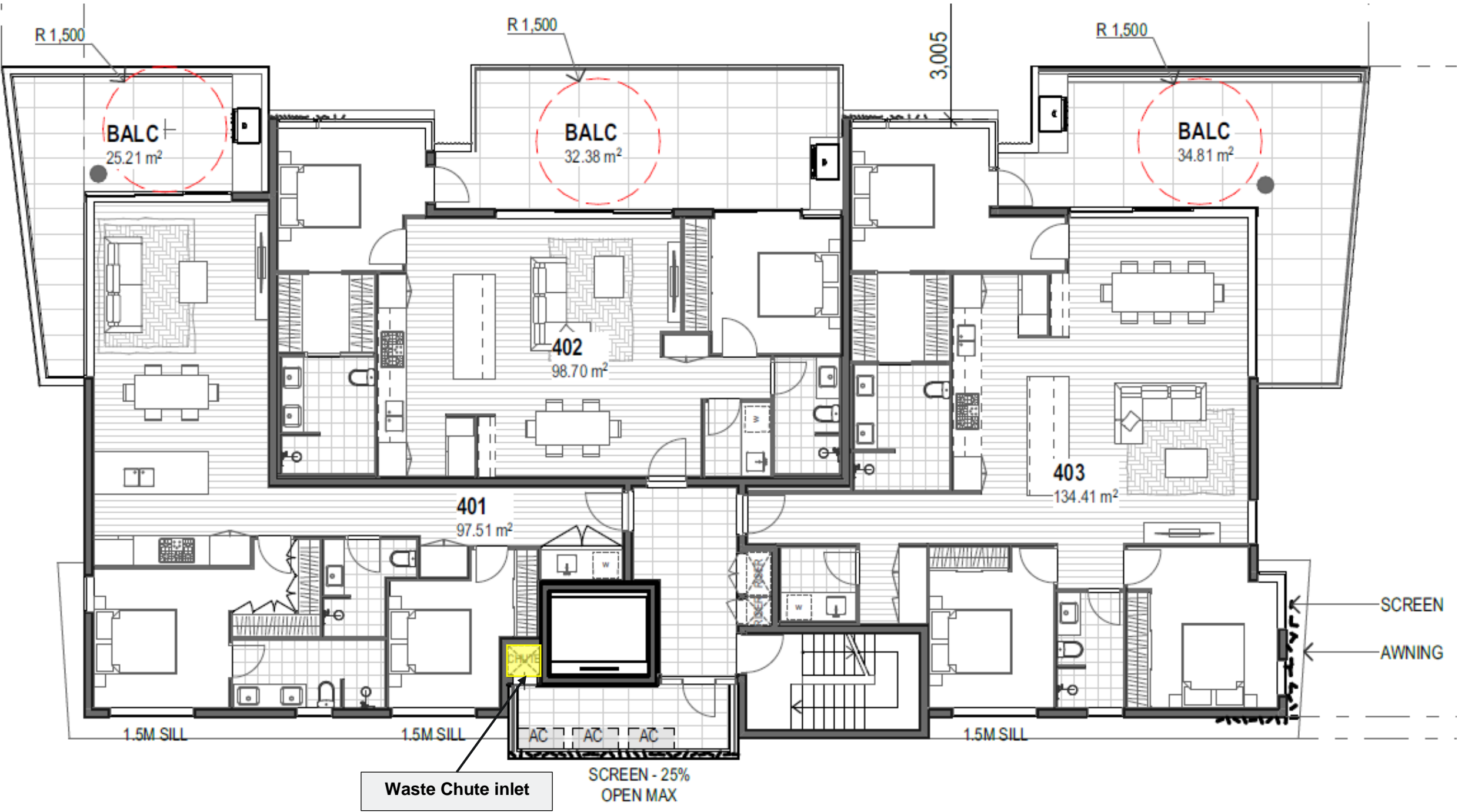
**Project**  
**Apartment Development**  
57 Banana Street, Redland Bay, QLD 4165

**Drawing Title**  
**Ground Floor Plan**

| Scale | Drawn | Checked |
|-------|-------|---------|
| 1:200 | RH    | EA      |

| Project Number | Drawing Number | Issue |
|----------------|----------------|-------|
| H4474BAN       | TP203          | E     |

Figure 4: Indicative floor plan



Source: HAL Architects, 2022



## Appendix B Storage Location for C&D Waste and Material Stockpiles



Source: Redland City Maps



## Appendix C Standard Signage

### Waste Signage

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the Queensland Department of Environment, land and water.

Standard symbols for use in signage, bin facade and educational materials are promoted through the Queensland Department of Environment, land and water. They are available for download from the department website, in black and white and colour versions. The Australian Standard series AS 4123 (Part 7) details colours for mobile waste containers (Standards Australia 2008).

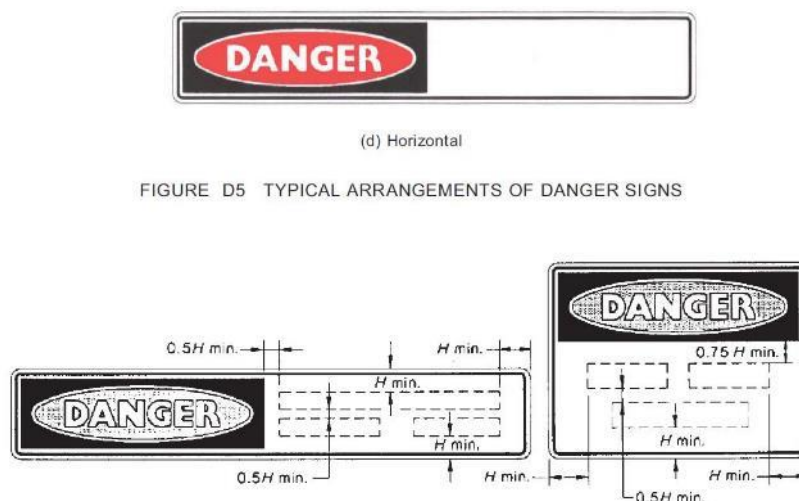
Figure 5: Examples of standard signage for bin uses



### Safety Signs

The design and use of safety signs for waste and recycling rooms and enclosures should comply with AS 1319 (Standards Australia 1994). Safety signs should be used to regulate, and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Clear and easy to read 'NO STANDING' and 'DANGER' warning signs must be fixed to the external face of each waste and recycling room where appropriate.

Figure 6: Example and layout of safety signage



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