Newcastle East End Stage 3 & 4 – Waste Management Plan

A Submission to Iris Capital

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Prepared by

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Disclaimer

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Glossary

Terminology	Definition
AS	Australian Standard
C&D	Construction and Demolition
DCP	Development Control Plan
ENM	Excavated Natural Material
EPA	Environment Protection Authority
LGA	Local Government Area
MGB	Mobile Garbage Bin
NDCP	Newcastle Development Control Plan 2012
NLEP	Newcastle Local Environmental Plan 2012
MSW	Municipal Solid Waste
VENM	Virgin Excavated Natural Material
WMP	Waste Management Plan
WSP	Waste Service Provider
WSRA	Waste Storage and Recycling Area

1 Introduction

MRA Consulting Group (MRA) was engaged by Iris Capital to prepare a waste management plan (WMP) for the proposed mixed use development in Newcastle East End precinct. The precinct is divided into blocks numbered 1 through 4 which include several properties and associated buildings. It is understood that, a concept plan staged Development Application (DA2017/00701) was approved in 2017 for the redevelopment of Hunter Street Mall, which includes retail, commercial, public spaces, residential flats, as well as parking.

This WMP addresses operational waste management requirements for the proposed Stages 3 and 4 of the Newcastle East End development. The WMP will assist in guiding best practice waste management, as well as promoting sustainable outcomes through waste avoidance and resource recovery at the construction site and the operational phases of the development.

The WMP meets the requirements of the Consent Authority (Council) and complies with the following reference documents:

- *Newcastle Local Environmental Plan (NLEP) 2012; and*
- *Chapter 7.08 Waste Management of the Newcastle Development Control Plan (NDCP) 2012.*

Consideration has also been given to the following supplementary documents in the preparation of this WMP:

- *Better practice guide for Resource Recovery in Residential Developments (NSW EPA, 2019); and*
- *Better practice guidelines for waste management and recycling in commercial and industrial facilities (NSW EPA, 2012).*

The principal objective of managing this activity is to maximise resource recovery and minimise residual waste from demolition and construction activities by

1. Optimising adaptive reuse opportunities of existing building/structures.
2. Maximise reuse and recycling of materials.
3. Minimise waste generation.
4. Ensure appropriate storage and collection of waste.
5. Minimise the environmental impacts associated with waste management.
6. Avoid illegal dumping.
7. Promote improved project management.

2 Background

2.1 Description of the proposed development

The subject blocks comprised an area of approximately 6,550m^2. The proposed development site is comprised of block 3 (West, North and South buildings) and block 4 (North and South buildings). There will be mix use buildings along Hunter Street, King Street, Morgan Street and Newcomen Street; details of the proposed works and features of the development are summarised as follows:

Block 3 East (North and South - Morgan Street) (See Figure 2 - Figure 4, Appendix A) –

- Excavation of 3 levels of basements for car parking, wine cellar and retail use;
- Construction of:
    - Ground level turntables,
    - South - 2 levels of residential dwellings (9 units),
    - North - 10 levels of residential dwellings (29 units),
    - rooftop communal open space incl. pool.

Block 3 West (Hunter Street) (see Figure 5 and Figure 6, Appendix A) –

- Excavation of 3 levels of basements for car parking, wine cellar and retail use;
- Construction of:
    - Ground level residential use and lobbies
    - 7 levels of residential dwellings (52 units)

Block 4 North (Newcomen Street) (see Figure 7 and Figure 8, Appendix A) –

- Excavation of 2 levels of basement for car parking, turntable, loading docks;
- Construction of:
    - Ground level courtyard, wine store, basement carpark, and retail purposes, and
    - 8 levels of residential dwellings (23 units) with rooftop terrace.

Block 4 South (King Street) (see Figure 9 and Figure 10, Appendix A) –

- Excavation of 2 levels of basement for car parking, turntable, loading docks;
- Construction of:
    - Lower ground level carpark, wellness area,
    - Upper ground level communal space, wine cellar, residential dwellings (6 units) and courtyard, and
    - 9 levels of residential dwellings (82 units), courtyard and communal open space.

2.2 Location

The proposed development is located approximately about 170 Km North of Sydney in Newcastle City Council local government area (LGA). The site is in B4 mixed use zone and is defined by a range of use including community, residential and commercial purposes. The several blocks are situated in Newcastle east, between Newcomen Street to the East, Hunter Street to the North, Thorn St to the West and King Street to the South of Block 4 and Laing Street to the South of Block 3 (see Figure 1).

Figure 1: Aerial image of Blocks 3 and 4 of the new development in relation to broader site and surroundings.

Source: Nearmap, 2023.

2.3 Strategies

Waste management for the site considers better practice, necessary equipment, and integration with other guidance documents including the NSW Waste and Sustainable Materials Strategy 2041 (2021), and National Waste Policy: Less Waste, More Resources (DEE, 2020). The key policy aims that are considered are:

- Avoidance (to prevent the generation of waste);
- Reduce the amount of waste (including hazardous waste) for disposal;
- Manage waste as a resource; and
- Ensure that waste treatment, disposal, recovery and re-use are undertaken in a safe, scientific and environmentally sound manner.

Management of waste generated onsite according to directives of the WSM Strategy will assist in achieving the target of 80% diversion from landfill in the C&D sector.

2.4 Assumptions

This report is a WMP, forming part of the mixed-use development documentation and assumes:

- Drawings and information that have been relied on in this WMP are the current set for the demolition of blocks 3 and 4 in the Newcastle East End precinct new development, prepared by SJB Architects, Durbach Block Jaggers and Curious Practice.
- The City of Newcastle NSW EPA *Better Practice Guidelines* 2019 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 Construction Waste Management

Construction activities at the site will generate a range of construction 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 of reusable material, as well as placement of wheeled bins for the separation of construction materials for recycling. A bin for residual waste or contaminated material will also be made available at the site for disposal where necessary. 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 construction contractor and shall be sufficient to store the various waste streams expected during operations. Waste storage areas will be kept clear to maintain access and shall also be kept tidy to encourage separation of waste materials and for WHS reasons. The waste storage area will retain multiple bins to allow for source separation of waste to allow for ease of recovery and reuse of materials.

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.

Demolition waste has previously been addressed in a separate DA and demolition waste management plan for the demolition of existing structures across the site.

3.1 Construction Waste

The proposed development will involve the construction of several mixed-use buildings across the proposed development site as outlined in Section 2.1. Table 1 outlines indicative volume to weight conversion factors for common construction materials.

Table 1: Building waste material by percentage and conversion factor for volume and weight

Building waste material	Tones per m^3	Waste as % of the total material ordered for construction
Bricks	1.2	5-10%
Concrete	1.5	3-5%
Tiles/Ceramics	1	2-5%
Timber	0.3	5-7%
Plasterboard	-	5-20%
Mixed metals	0.9	-
Clean fill	1.6	-

Source: EcoRecycle – Waste Victoria.

Table 2 outlines the estimated waste generation rates for materials through construction of the proposed development, in addition to the appropriate management methods for each material type.

Table 2: Construction waste generation estimations

Type of Material	Estimated Volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Excavated material	45,000 - 60,000	✓	✓	✓	<5%	>95%	Onsite: Reuse for fill and levelling. Offsite: Removed from site for reuse as recycled fill material or soil. Disposal: Removal of any contaminated material for appropriate treatment or disposal.
Bricks/pavers	10 - 20	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Concrete	400 - 800	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for filling, levelling or road base. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Tiles	10 - 20	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.

Type of Material	Estimated Volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Timber (clean)	<10	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse removed to C&D facility for recovery where possible.
Timber (treated)	<10	-	✓	✓	50%	50%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse removed to C&D facility for recovery where possible.
Plasterboard	40 - 60	-	✓	✓	<10%	90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier or removed to a C&D/plasterboard recovery facility for recovery where possible.
Glass	10 - 20	✓	✓	✓	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Returned to supplier for reuse or removed to C&D facility for crushing and recycling for recovered products.
Metals (ferrous) Metals (non-ferrous)	10 - 20	-	✓	✓	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Returned to supplier for reuse or removed to C&D facility for recovery and recycling.

Type of Material	Estimated Volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Floor covering	20 - 30	-	✓	✓	<10%	>90%	Offcut carpet separated where possible and returned to supplier for reuse.
Electronic waste	<5	-	✓	✓	<10%	>90%	Offcut wires and electronics separated where possible or returned to supplier for reuse.
Packaging materials (pallets, wrap, cardboard, etc)	100 - 200	-	✓	✓	<10%	>90%	Returned to supplier where possible or separated by material type for resource recovery.
Residual waste	25 - 50	-	✓	✓	100%	-	Resource recovery dependant on facility destination capability.
					Total Diversion %	**>90%**	

3.2 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 3).

Table 3: Waste service contractors and facilities

Role	Details
Recommended Waste Collection Contractor	The following are local skip bin operators for consideration in the management of excavation and construction waste for the site: • Central Waste Skips; • Newcastle Skip Bin Hire; and • All Town Skips. Or another supplier as elected by the building contractor.
Principal Off-Site Recycler	The following are local C&D processing facilities for consideration in the management of C&D waste generated at the site: • Regyp - Newcastle; • Concrush - Teralba; and • Central Waste Station – Kurri Kurri. Or another appropriate facility as elected by the waste management contractor.
Principal Licensed Landfill Site	Summer Hill Waste Management Centre, or other appropriate facility as elected by the waste management contractor.

3.3 Site Documentation

This WMP will be retained on-site during the 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 Ongoing Waste Management

4.1 Overview

Waste management strategies related to site operations have been established according to the documents outlined in the CBDCP.

The proposed development is a mixed-use of hotel/retail on the ground floor and residential levels above. Operational waste generation addressed in the following sections relates to waste generation associated with residential and commercial/retail components of the building.

The following space calculations are based off the bin dimensions sourced from the CBDCP and NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments (hereafter referred to as the "Better Practice Guide")* (2019) (Table 4).

Table 4: MGB capacity and footprint

Bin Capacity (L)	Height (mm)	Depth (mm)	Width (mm)	Footprint (Approx. m^2)
240	1,080	735	580	0.43
660	1,250	850	1,370	1.16
1,100	1,470	1,245	1,370	1.71

Source: NSW EPA, 2019.

4.2 Residential Waste

4.2.1 Waste Generation Rates

In lieu of a Council specific waste generation rate, the following waste generation rates have been derived from NSW EPA *Better Practice Guide* (see Table 5).

Table 5: NSW EPA waste guideline residential waste generation rates per week

Apartment Size	Waste	Recycling	Organics
1 bedroom or studio	80L	80L	25L
2 bedroom	100L	100L	25L
3 bedroom or greater	120L	120L	50L

Source: NSW EPA, 2019 (Table F2).

4.2.2 Waste Generation and bin requirements

The proposed residential component of the proposed building will include 195 residential dwellings across two stages, up to 8 storeys. Residential waste will make use of general waste and recycling chutes for the management of waste across each level for each building. While limited garden organic waste is expected to be generated by residents, food waste may be required to be managed and therefore, space for separate bins should be provided in common waste storage spaces for the management of food waste if required.

Based on the above standard bin requirements outlined in Council development controls (see Section 4.2.1), the following waste generation profile for the residential component of the proposed development are outlined in Table 6 below.

Table 6: Residential waste generation

Building		Waste stream	Units*	Weekly Waste Generation	Bins Required
Stage 3	North	General Waste	9	840	1 x 1,100L bin
		Recycling		840	1 x 1,100L bin
		FOGO		225	2 x 240L bins
	South	General Waste	29	3,000	3 x 1,100L bins
		Recycling		3,000	3 x 1,100L bins
		FOGO		875	4 x 240L bins
	West	General Waste	52	5,040	5 x 1,100L bins
		Recycling		5,040	5 x 1,100L bins
		FOGO		1,375	6 x 240L bins
Building		**Waste stream**	**Units**	**Weekly Waste Generation**	**Bins Required**
Stage 4	North	General Waste	23	2,340	3 x 1,100L bins
		Recycling		2,340	3 x 1,100L bins
		FOGO		700	6 x 240L bins
	South	General Waste	82	8,300	8 x 1,100L bins
		Recycling		8,300	8 x 1,100L bins
		FOGO		2,325	10 x 240L bins

**it is noted that each of the proposed buildings will include multiple chute cores corresponding to respective lift cores. Each chute cure will terminate into a distinct waste room and therefore, bin requirements will be distributed across several interim chute rooms as shown on site plans.*

Table 7: Residential waste generation by Stage

Building	Waste Stream	Units	Weekly Waste Generation (L)	Bins Required / collection schedule
Stage 3	General Waste	90	8,880	**9 x 1,100L bins**
	Recycling		8,880	**9 x 1,100L bins**
	FOGO		2,475	**3 x 1,100L bins**
Stage 4	General Waste	105	10,640	**11 x 1,100L bins**
	Recycling		10,640	**11 x 1,100L bins**
	FOGO		3,025	**3 x 1,100L bins**

**While not yet part of Council's waste service offering, the proposed development would cater for food and garden organic waste (FOGO) and has assumed rates of generation according NSW EPA Guidelines.*

Given the scale of the residential component of the proposed development, 1,100L bins will be preferable for the management of general waste and recycling at the site to reduce the number of bins required to be serviced.

4.2.3 Waste Storage

Temporary Waste Storage and disposal

Each dwelling will maintain smaller bins within each unit, capable of storing at least one days' worth of waste. Residents will have access to a waste and recycling chute on each habitable level for the disposal of waste as needed. Location of the waste chutes are highlighted in proposed site plans included as Appendix A.

Residential Waste Room

Residential waste disposed of via waste and recycling chutes will be deposited into the residential waste room located on the ground floor. The residential waste room has direct access to the ground floor loading dock via a dedicated bin lift which connects the waste room and loading dock. The bin room will be utilised for the temporary storage of all waste types prior to collection.

Table 8: Residential Bin requirements

Building	Waste Stream	Bins Required	Collection Schedule	Space required (incl. manuevring)*
Stage 3	**General Waste**	9 x 1,100L bins	Weekly	23m^2
	Recycling	9 x 1,100L bins	Weekly	23m^2
	FOGO	3 x 1,100L bins	Weekly	8m^2
	Bulky Waste	N/A	As required	12m^2 (approx.)
			Total	**66m^2**
Stage 4	**General Waste**	11 x 1,100L bins	Weekly	28m^2
	Recycling	11 x 1,100L bins	Weekly	28m^2
	FOGO	3 x 1,100L bins	Weekly	8m^2
	Bulky Waste	N/A	As required	12m^2 (approx.)
			Total	**76m^2**

**minimum space required assumes bin footprint x 1.5 to accommodate for manoeuvring of bins. This does not include area for bulky waste storage/handling.*

The residential bin rooms proposed for the site are sufficient for the storage of bins required and are sized approximately as follows:

- Stage 3: **66m^2**
- Stage 4: **76m^2**

Bulky Waste Storage

A bulky waste storage area should be made accessible to all residents and therefore each stage of the proposed development will maintain a bulky waste store. This storage area is intended to be used to store large items that cannot be disposed of to general waste and recycling (including via the chute systems) and accommodate for Council's additional recycling initiatives available. Bulky waste items may including but are not limited to:

- broken/damaged/old whitegoods,

- furniture,
- appliances, and
- mattresses.

Other waste/recycling streams that may be appropriate for management at the site include but are not limited to:

- separate paper and cardboard,
- textiles,
- e-waste, and
- soft plastics.

Bulky waste storage areas are sized to accommodate temporary holding of bulky waste items between scheduled collection times, per Council timeframe for residential flat buildings. Bulky waste storage rooms are located in or adjacent to the chute rooms for each of the buildings, per site plans in Appendix A.

4.2.4 Collection Scheduling

Waste generation and storage estimates in the above sections assume a weekly collection for all typical waste streams (being general waste, recycling and organics). A more frequent collection of general waste and recycling will reduce the number of bins required to be retained at the site at any one time and may create efficiencies in the operational management of waste at the site.

Collection arrangements, including collection frequency are subject to availability with Council. It is proposed that general waste and recycling be collected on different days in the week to reduce demand on loading docks at the site and ensure bins are managed efficiently.

4.3 Commercial Waste

The commercial components of the proposed development will be similarly separated into two distinct Stages of development. Stage 3 & 4 will incorporate ground floor retail uses through the activated frontage.

The following sections address waste management for commercial uses of the site according to the two stages of development.

4.3.1 Waste Generation

Table 9 outlines waste generation expectations based on Council and NSW EPA *Better Practice Guide* waste generation rates for the proposed retail tenancies in Stage 3 & 4 of the development. It is unknown at this time what specific uses will occupy proposed retail tenancies and therefore, 50% occupancy has been assumed to be food & beverage or café related uses as this represents the typically highest waste generating uses.

Table 9: Retail waste generation

Stage	Use	Area (m^2)	Waste Stream	Waste Generation Rate	Generation per Week (L)*
Stage 3	General Retail	490	**General Waste**	50L/100m^2/day	1,715
			Recycling	100L/100m^2/day	3,430
	Food and Beverage / Café	490	**General Waste**	50L/100m^2/day	1,715
			Recycling	120L/100m^2/day	4,116
			Food Waste*	50L/100m^2/day	1,715
Total				**General Waste**	**3,430**
				Recycling	**7,546**
				Food Waste	**1,715**
Stage 4	General Retail	268	**General Waste**	50L/100 m^2/day	938
			Recycling	100L/100 m^2/day	1,876
	Food and Beverage / Café	268	**General Waste**	50L/100m^2/day	938
			Recycling	120L/100m^2/day	2,251
			Food Waste*	50L/100m^2/day	938
Total				**General Waste**	**1,876**
				Recycling	**4,127**
				Food Waste	**938**

Note: Retail uses are assumed to operate 7 days per week.

**Food waste is expected to be proportionately high since most general waste will contain food. It is expected this can be managed separately and therefore, 50% of the general waste stream has been assumed to be food waste.*

4.3.2 Bin Requirements

In total, the retail component of Stage 3 and 4 is expected to generate the following total volume of waste per week, according to waste stream:

- General waste – 5,306L
- Recycling – 11,673L
- Food waste – 2,653L

Table 10 outlines the required bin infrastructure to manage the expected waste generation for the proposed retail use.

Table 10: Bin storage requirements

Stage	Waste Stream	Bins / collection schedule	Min. Space required (incl. Manoeuvring)
Stage 3	General Waste	2 x 1,100L bins / collected twice a week	5m^2
	Recycling	4 x 1,100L bins / collected twice a week	10.5m^2
	Food Waste	4 x 240L bins / collected twice a week	3m^2
	Bulky items / other waste	-	4m^2
		Subtotal	**22m^2**
Stage 4	General Waste	1 x 1,100L bins / collected twice a week	2.5m^2
	Recycling	2 x 1,100L bins / collected twice a week	5m^2
	Food Waste	2 x 240L bins / collected twice a week	1.5m^2
	Bulky items / other waste	-	4m^2
		Subtotal	**13m^2**

Note: The number of bins required to be retained reduces as collection frequency increases.

4.3.3 Waste Storage

Temporary Waste Storage

Retail tenancies will retain smaller bins in BOH areas to capture one days' waste generated. Waste will be transferred between temporary bins and the retail waste storage area by retail staff at the end of each day or as required.

Retail Waste Rooms

Retail waste storage will require approximately 22m^2 for Stage 3 and 13m^2 for Stage 4. Stage 3 retail waste is proposed to be stored in a room of approximately 32m^2 (see Figure 3) located on the ground floor of the West building. Stage 4 retail waste will have bins stored in a retail waste room located adjacent to the loading dock of the South building, with overburden space in the loading dock for the storage of spare empty and full bins (see Figure 12). Building management will be responsible for ensuring that bins are rotated between storage and collection areas for servicing purposes.

Retail waste storage areas are designed with sufficient space to accommodate the proposed bins outlined in Section 4.3.2. Additionally, the spaces are also sufficiently sized to accommodate potential changes to waste management in future, for the management of different waste streams, including bulky items.

4.3.4 Collection Scheduling

Waste generated from the proposed retail component of the site will be collected 1-2 times per week by a private contractor from the loading docks for Stages 3 and 4. All wastes will be transported for treatment or disposal at a facility suitably licensed to receive, process, or dispose of that waste type.

Waste collection will be coordinated to avoid conflicting with waste collection schedules for residential waste. Details waste collection scheduling for commercial waste will be determined prior to occupation of the site and procedures outlined in a loading dock management plan to be prepared prior to issuing of an occupation certificate.

5 Equipment and Waste Management System

5.1 Collection method and loading areas

Council's waste contractor will be the waste service provider for the residential component of the site, while a private contract will be engaged to service retail components of the proposed development from the respective buildings. Waste service vehicles utilised for the site will be rear loading style. The collection point for the waste service provider (WSP) and areas for handling and loading are as follows:

- Collection and loading will occur in the loading areas within the site which are designed to accommodate a waste collection vehicle according to Australian Standards. Loading areas are as follows:
    - Block 3 South – accessible from Liang Street (see Figure 11, Appendix B); and
    - Block 4 South – accessible from Liang Street (see Figure 12, Appendix B).
- Clear, safe, accessible and convenient space for handling of MGBs and equipment and loading of collection vehicles;
- 2m of unobstructed clear space behind the proposed truck loading area is available for the safe and effective loading of MGBs for rear lift servicing; and
- Identifiable areas where pedestrians, visitors and site staff can recognise and avoid any risk associated with moving vehicles, and bin moving and handling.

The loading dock has been designed according to EPA NSW Better Practice Guide for resource recovery in residential development.

The following table is for guidance only. For detailed requirements and vehicle dimension reference to AS2890.2 Parking facilities: off-street commercial vehicle facilities.

Table 8: HRV – AS2890.2

Vehicle type	Rear loading
Length (m)	12.5
Width (m)	3.5
Travel height (m)	4.5
Turning circle (m)	25.0

5.2 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 alterative 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 mobile garbage bin (MBG).
- **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 applicable.
- **Food Waste:** Commercial food organics waste generation from the development can be collected and treated on-site at small scale should management decide to do so. Organics treatment can be used to produce conditioners, compost or vermiculture castings for application on or off-site. Equipment options include different size and capacity composters, dehydrators, worm farms and macerators. For organics treated to acceptable standards, discharge of effluent or any output to sewer as commercial trade wastewater may be permitted.

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.

- **Food Donation:** Management of commercial and food and beverage uses may like to explore the potential for donation of excess consumable food to charities such as OzHarvest or FoodBank NSW.
- **Paper and Cardboard:** Should large quantities of paper and carboard waste be generated from proposed site uses a separate service may be suitable for application at the site. The contracted waste service provider may be able to provide separate paper and cardboard bins for the source separation and collection of paper and cardboard waste.
- **Other (Problem) Waste:** The disposal of hard, bulky, electronic, liquid or potentially hazardous wastes shall be organised between the operator and site users as necessary. Aldi on Oxford St have a battery collection point for local use.
- **Cooking Oil**: grease traps/arrestors are provided across the site for potential food tenancies cooking oil. Collection will be coordinated between the operator, site users and the contracted WSP. Grease trap servicing will be scheduled as required.

5.3 Waste Management and Recycling Method

The flow of **residential 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 are to transfer waste to waste and recycling chute inlet located on each residential level which will deposit into a bin room on the lower ground and basement levels. Maximum distance between residential dwellings and chutes on each residential level will be less than 30m, in accordace with NSW EPA guidelines.
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 switching out full bins and monitoring bin fullness;
4. Each chute room will have capacity of at least 3 days worth of waste and recycling storage capacity in the form of 1 x 1,100L bin which will require changing once full by site waste caretaker or manager;
5. Site management is to ensure contracts with Council or a private waste contractor, who also ensure appropriate collection scheduling and access is organised to minimise noise, odour, vermin, and visual amenity impacts to staff, visitors and the public.
6. All waste collections for residential waste will occur at either of the two loading docks for Stage 3 and 4 respectively (see Section 5.1 and Appendix B).

The flow of **commercial 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. Site cleaners and/or tenancy staff are to transfer waste to the respective waste storage room for appropriate disposal into the respective bin. Commercial tenants will not have access to residential waste storage areas and vice versa.
3. Cleaning staff and site management are responsible for maintenance of bins and the waste storage rooms, ensuring bins are clean and in working order. Cleaning staff and site management are also responsible for switching out full bins and monitoring bin fullness;
4. Site management is to ensure contracts with Council or a private waste contractor, who also ensure appropriate collection scheduling and access is organised to minimise noise, odour, vermin, and visual amenity impacts to staff, visitors and the public.
5. All waste collections for residential waste will occur at either of the two loading docks for Stage 3 and 4 respectively (see Section 5.1 and Appendix B).

5.4 Management System and Responsibilities

The site management and caretaker staff 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 and information on sorting methods for recycled waste, awareness of waste management procedures for waste minimisation and resource recovery;
- Maintaining a valid and current contract with a licensed waste service provider for waste and recycling collection and disposal;
- 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.

5.5 Bin Storage Areas and Amenity

Site cleaning staff will have access to the waste rooms which will house general waste and recycling bins, and other waste management equipment/infrastructure as required.

The bin storage areas proposed for residential and commercial uses will be entirely enclosed or adjacent to loading areas to avoid impacting residents, visitors and retail patrons. Transfer of bins will mainly take place between storage areas and loading docks which are generally connected via service lifts.

Waste storage areas will be designed and constructed with consideration to Council specifications outlined as follows:

- The location of the designated waste and recycling storage room(s) or areas, sized to meet the waste and recycling needs of all tenants
- Development includes a designated waste/recycling storage area or room(s) (designed in accordance with the ‘Waste Management Technical Manual’)
- The path of travel for moving bins from the storage area to the identified collection point (if collection is to occur away from the storage area). Step-free access is provided between the point at which bins are collected/emptied and the waste/recycling storage room(s) or area(s) (d) the on-site path of travel for collection vehicles
- Depending upon the size and type of the development, it may be necessary to include a separate waste/recycling storage room/area for each tenancy
- All tenants keep written evidence on site of a valid contract with a licensed waste contractor for the regular collection and disposal of the waste and recyclables that are generated on site
- Where possible, waste/recycling containers are collected from a rear lane access point
- The size and layout of the waste/recycling storage room/area are capable of accommodating reasonable future changes in use of the development
- Waste chutes will be designed in accordance with the requirements of the ‘Waste Management Technical Manual’, the ‘Building Code of Australia’ and ‘Better practice guide for resource recovery in residential developments 2019. Garbage chutes are not suitable for recyclable materials and must be clearly labelled to discourage improper use. Where recycling chutes are not provided, alternative interim disposal facilities for recyclables should be provided at each point of access to the waste chute system

- Arrangements are to be in place regarding the regular maintenance and cleaning of waste management facilities. Tenants and cleaners are made aware of their obligations in regard to these matters.
- Mixed use development incorporates separate and self-contained waste management systems for the residential component and the non-residential component. In particular, the development incorporates separate waste/recycling storage rooms/areas for the residential and non-residential components.
- Commercial tenants are to be prevented (via signage and other means), from using the residential waste/recycling bins and vice versa.

5.6 Chute and bin handling system

The proposed development will incorporate a number of dual-core waste and recycling chutes across buildings for the purpose of managing residential waste. The proposed residential waste management system for proposed buildings across Stage 3 and 4 are summarised as follows –

- General (all buildings):
    - Dual core waste and recycling chutes with disposal access on each residential level.
    - Chute access on each level approximately 30m from furthest residential dwelling, in line with NSW EPA (2019) *Better Practice Guide for Resource Recovery in Residential Developments – Section 2.7 - It is also recommended that residents should not be required to walk more than a maximum distance of 30m.*
    - Chute discharge into 1,100L bins located on lower floors in a dedicated chute room.
    - Some bins stored across the site may require a movement aid to transfer bins from their respective chute room to the relevant loading dock for servicing. Examples of bin handling equipment is identified in Appendix C.
- Stage 3 East (North & South) (see Figure 2 - Figure 4, Appendix A):
    - Chute/bin rooms located on the ground floor (South) and Basement Level 1 (North) for discharge of chutes.
    - Service/goods lift access direct from waste storage areas to the proposed loading level.
- Stage 3 West (see Figure 5 and Figure 6, Appendix A):
    - Two, dual core waste and recycling chutes discharging into chute/waste rooms located on Basement Level 1.
    - Access via basement Level 1 to goods lift up to the Stage 3S building loading dock. May require a bin tug or trailer for the efficient transfer of bins across the carpark or up the ramp to the loading area.
- Stage 4 North (see Figure 7 and Figure 8, Appendix A):
    - Two, dual core waste and recycling chutes discharging into chute/waste rooms located on the Ground Floor.
    - Link access to Stage 4 South building loading dock on Basement Level 1. May require a bin tug or trailer for the efficient transfer of bins across the carpark or up the ramp to the loading area.
- Stage 4 South (see Figure 9 and Figure 10, Appendix A):
    - Four, dual core waste and recycling chutes discharging into chute/waste rooms located on the Lower Ground or Basement Level 1.
    - Two waste rooms in close proximity to the loading dock on Basement Level 1.
    - Two waste rooms located on the Lower Ground floor with direct access to a goods lift to the loading dock. May require a bin tug or trailer for the efficient transfer of bins across the carpark or up the ramp to the loading area.

5.7 Signage and Education

Signage that promotes resource recovery, waste minimisation, safety and amenity follow the Australian Standard for safety signs for the occupational environment.

Signage is designed to consider language and accessibility (i.e. to be understood as clearly as possible by those with different abilities of vision, knowledge of the English language, intellectual ability and with other conditions). Signage is to be prominently posted on each bin and relevant waste service area indicating:

- Detail on acceptable recyclables;
- Recyclables are to be decanted loose (not bagged);
- 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 D).

5.8 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), site management will also be responsible for:

- Maintenance of communal areas and bin storage areas;
- 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);
- Acting 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).

Blue Environment (2020) Australian National Waste Report.

Department of Environment and Climate Change (2008) NSW Model Waste Not DCP Chapter.

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

Newcastle Development Control Plan (NDCP) 2012.

Newcastle Local Environmental Plan (PLEP) 2012.

NSW EPA (2016) Recycling Signs, Posters and Symbols. Available at: http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm.

NSW EPA (2019) NSW Better Practice Guide for Resource Recovery in Residential Development.

State Environmental Planning Policy (Major Development) Amendment (State Significant Precincts) 2016.

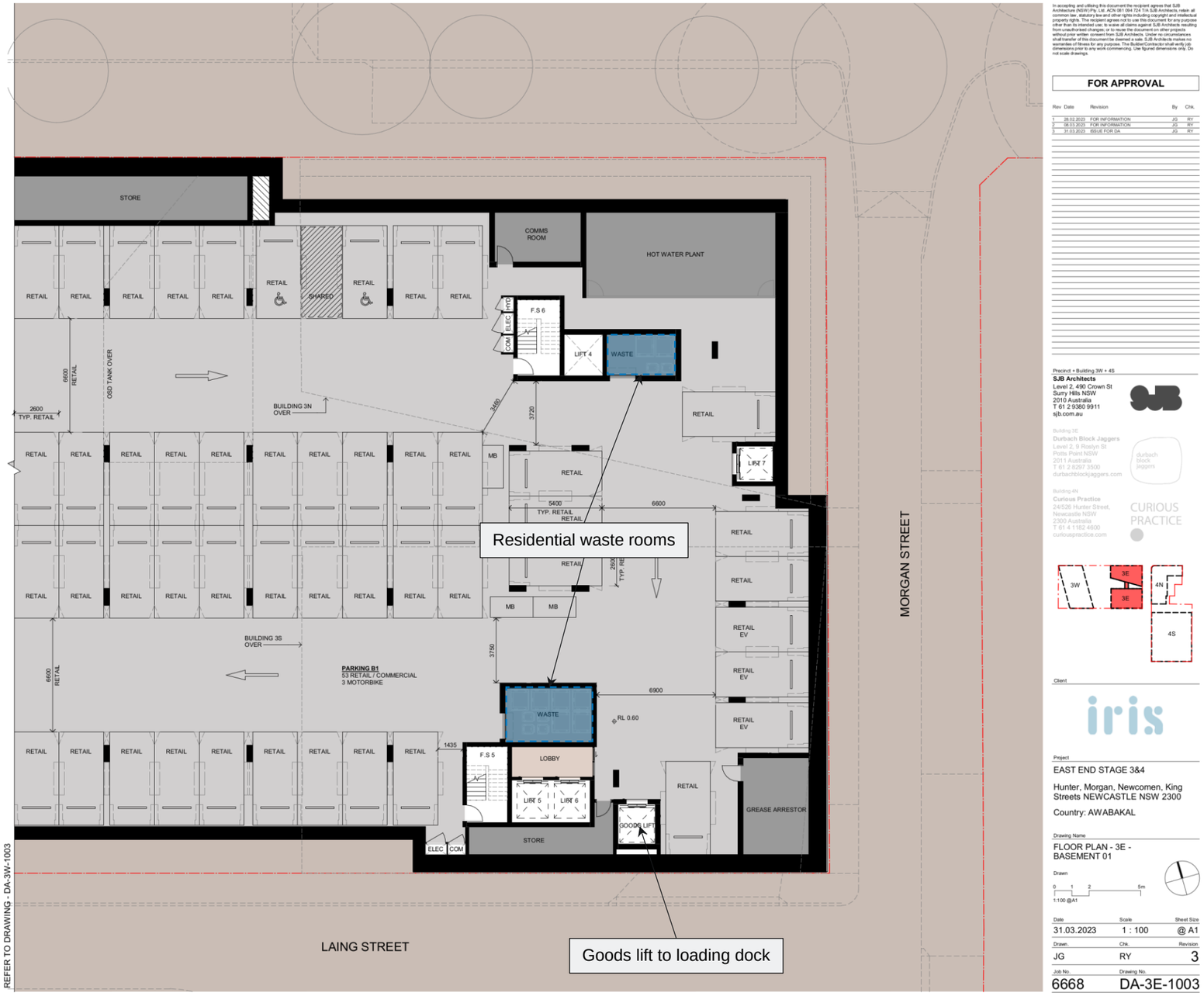
Standards Australia (1994) AS 1319: Safety signs for the occupational environment, Homebush, NSW: Standards Australia.

Standards Australia (2008) AS 4123 Mobile waste containers.

WorkCover (2011) Managing Work Environment Facilities Code of Practice.

Appendix A Proposed Chutes and Bin Storage

Figure 2: Stage 3 North and South – B1



Stage 3 Parking Schedule	
Level	Count
BASEMENT 1	16
BASEMENT 2	151
BASEMENT 3	64
	173
Grand total: 404	404

FOR APPROVAL

Rev	Date	Revision	By	Chk.
1	28.02.2023	FOR INFORMATION	JG	RY
2	08.03.2023	FOR INFORMATION	JG	RY
3	31.03.2023	ISSUE FOR DA	JG	RY

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Client

iris

Project

EAST END STAGE 3&4

Hunter, Morgan, Newcomen, King Streets NEWCASTLE NSW 2300

Country: AWABAKAL

Drawing Name

FLOOR PLAN - 3E - BASEMENT 01

Drawn

0 1 2 5m
1:100 @A1

Date	Scale	Sheet Size
31.03.2023	1 : 100	@ A1
Drawn.	Chk.	Revision
JG	RY	3
Job No.	Drawing No.	
6668	DA-3E-1003	

Figure 3: Stage 3 North & South – Ground Floor

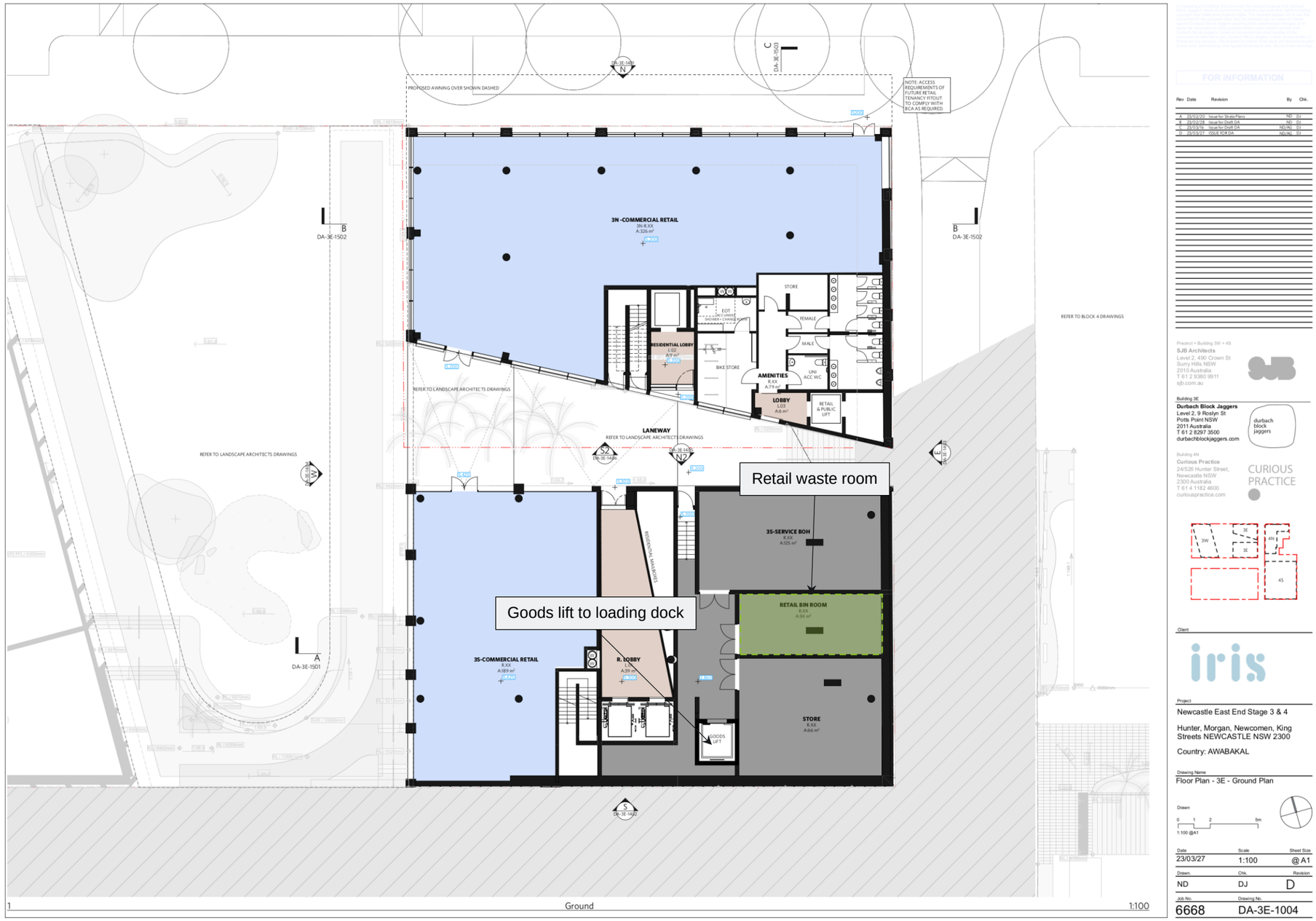

Figure 4: Stage 3 North & South – Residential Level

Figure 5: Stage 3 West – B1

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Rev	Date	Revision	By	Chk.
1	28.02.2023	FOR INFORMATION	JG	RY
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Country: AWABAKAL

Drawing Name
FLOOR PLAN - 3W - BASEMENT 01

Drawn
0 1 2 5m
1:100 @A1

Date	Scale	Sheet Size
31.03.2023	1 : 100	@ A1
Drawn.	Chk.	Revision
JG	RY	3
Job No.	Drawing No.	
6668	DA-3W-1003	

Figure 6: Stage 3 West – Residential Level

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1	28.02.2023	FOR INFORMATION	JG	RY
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Country: AWABAKAL

Drawing Name
FLOOR PLAN - 3W - LEVEL 01

Drawn
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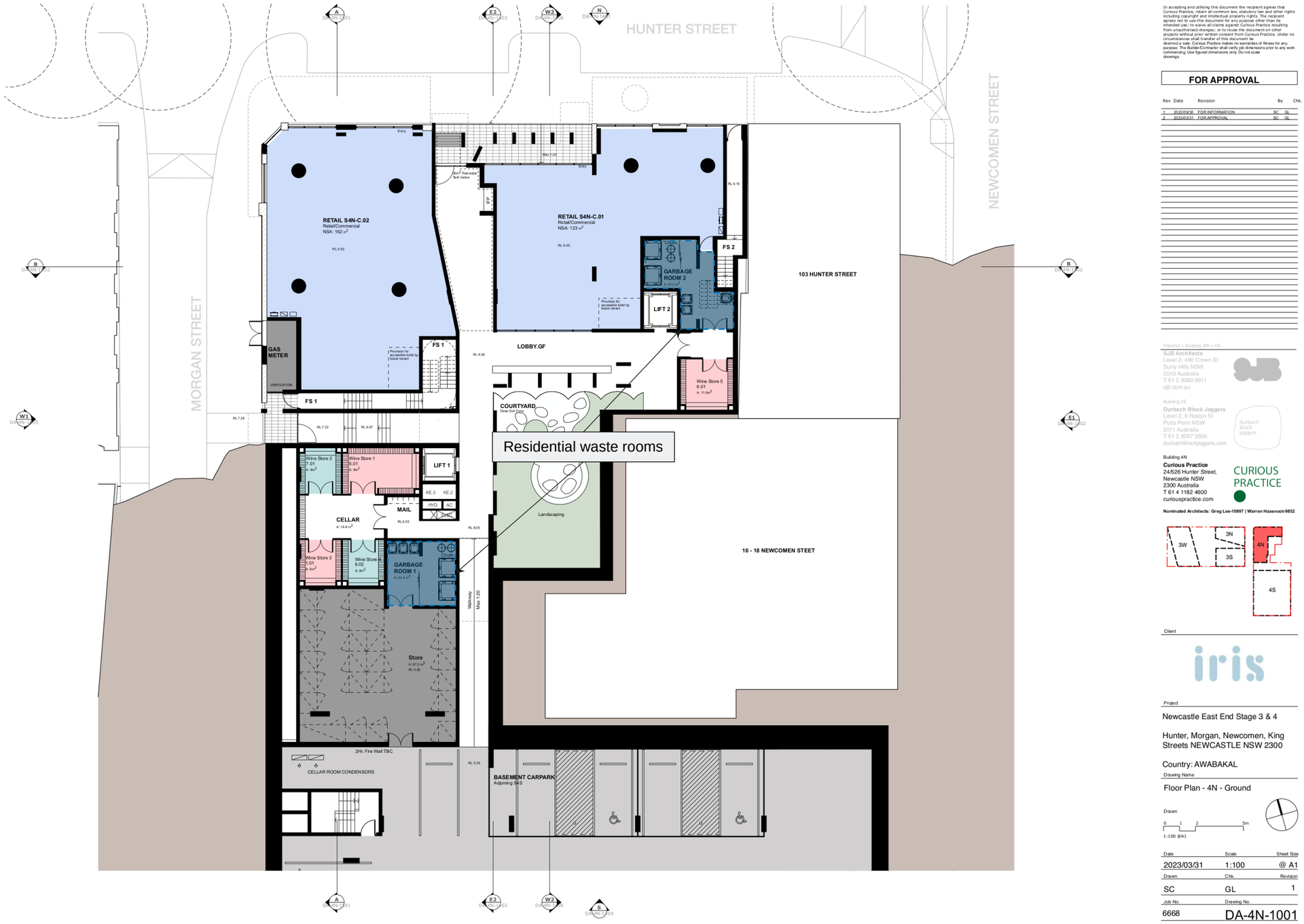
Date	Scale	Sheet Size
31.03.2023	1 : 100	@ A1
Drawn.	**Chk.**	**Revision**
JG	RY	3
Job No.	**Drawing No.**	
6668	DA-3W-1005	

Figure 7: Stage 4 North – Ground Floor



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Rev	Date	Revision	By	Chk.
1	2022/09/30	FOR INFORMATION	SC	GL
2	2023/03/31	FOR APPROVAL	SC	GL

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3W | 3N | 4N | 3S | 4S

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Drawing Name
Floor Plan - 4N - Ground

Drawn
0 1 2 5m
1:100 @A1

Date	Scale	Sheet Size
2023/03/31	1:100	@ A1
Drawn.	Chk.	Revision
SC	GL	1
Job No.	Drawing No.	
6668	DA-4N-1001	

Figure 8: Stage 4 North – Residential Level

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1	2022/09/30	FOR INFORMATION	SC	GL
2	2023/03/31	FOR APPROVAL	SC	GL

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Client: iris

Project: Newcastle East End Stage 3 & 4

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Country: AWABAKAL

Drawing Name: Floor Plan - 4N - Level 02

Drawn

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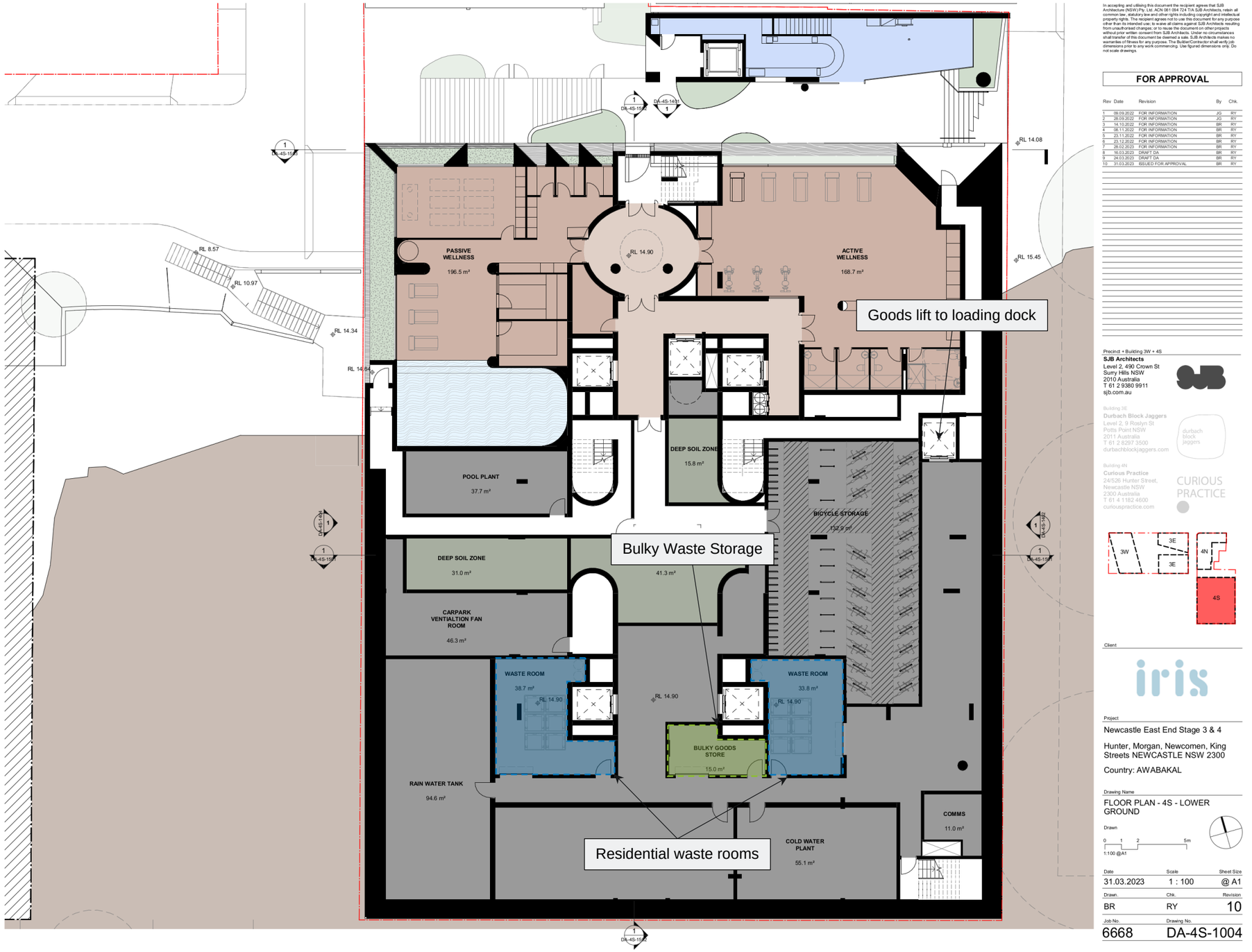
1:100 @A1

Date	Scale	Sheet Size
2023/03/31	1:100	@ A1
Drawn	Chk.	Revision
SC	GL	1
Job No.	Drawing No.	
6668	DA-4N-1003	

Figure 9: Stage 4 South – Lower Ground Floor



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Rev	Date	Revision	By	Chk.
1	09.09.2022	FOR INFORMATION	JG	RY
2	28.09.2022	FOR INFORMATION	JG	RY
3	14.10.2022	FOR INFORMATION	BR	RY
4	08.11.2022	FOR INFORMATION	BR	RY
5	23.11.2022	FOR INFORMATION	BR	RY
6	23.12.2022	FOR INFORMATION	BR	RY
7	28.02.2023	FOR INFORMATION	BR	RY
8	16.03.2023	DRAFT DA	BR	RY
9	24.03.2023	DRAFT DA	BR	RY
10	31.03.2023	ISSUED FOR APPROVAL	BR	RY

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Drawing Name

FLOOR PLAN - 4S - LOWER GROUND

Drawn

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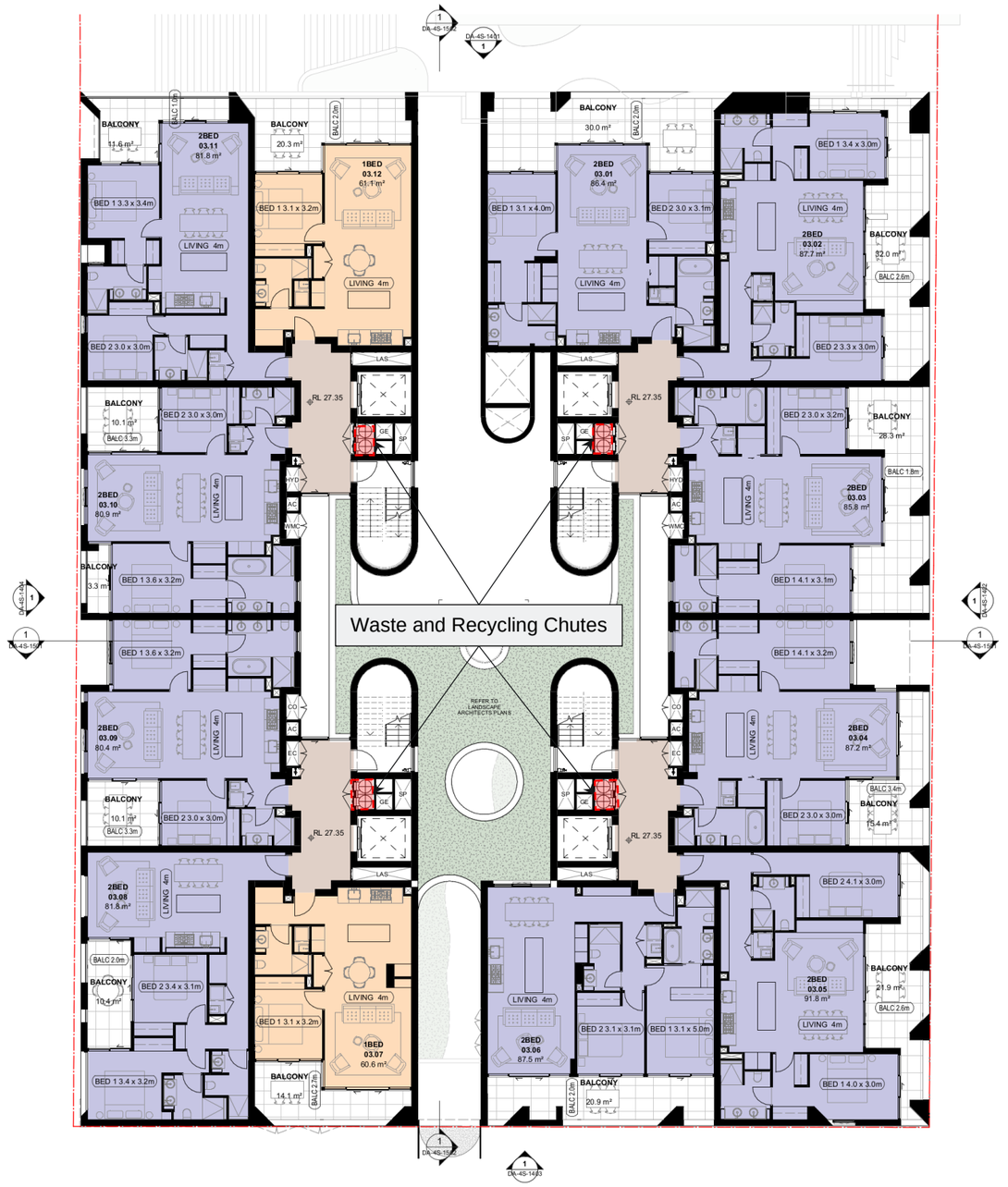
Date	Scale	Sheet Size
31.03.2023	1 : 100	@ A1
Drawn.	**Chk.**	**Revision**
BR	RY	10
Job No.	**Drawing No.**	
6668	DA-4S-1004	

Figure 10: Stage 4 South – Residential Level



FOR APPROVAL

Rev	Date	Revision	By	Chk.
1	09.09.2022	FOR INFORMATION	JG	RY
2	28.09.2022	FOR INFORMATION	JG	RY
3	14.10.2022	FOR INFORMATION	BR	RY
4	08.11.2022	FOR INFORMATION	BR	RY
5	23.12.2022	FOR INFORMATION	BR	RY
6	28.02.2023	FOR INFORMATION	BR	RY
7	16.03.2023	DRAFT DA	BR	RY
8	24.03.2023	DRAFT DA	BR	RY
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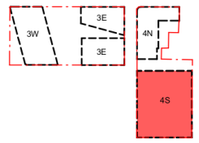

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Drawing Name
FLOOR PLAN - 4S - LEVEL 03

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Date	Scale	Sheet Size
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Drawn.	Chk.	Revision
BR	RY	9
Job No.	Drawing No.	
6668	DA-4S-1008	

Appendix B Proposed Waste Collection and Loading Areas

Figure 11: Stage 3 South Loading Dock

FOR INFORMATION

Rev	Date	Revision	By	Chk.
A	23/02/20	Issue for Strata Plans	ND	DJ
B	23/02/28	Issue for Draft DA	ND	DJ
C	23/03/16	Issue for Draft DA	ND/AG	DJ
D	23/03/27	1502E FOR DA	ND/AG	DJ

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Country: AWABAKAL

Drawing Name
Floor Plan - 3E - Loading Level Plan

Drawn
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1:100 @A1

Date	Scale	Sheet Size
23/03/27	1:100	@ A1
Drawn	Chk.	Revision
ND	DJ	D
Job No.	Drawing No.	
6668	DA-3E-1005	

Figure 12: Stage 4 South Loading Dock

Stage 4 Parking Schedule	
Level	Count
LEVEL B1	24
LEVEL B2	55
LEVEL B3	62
Grand total: 141	141

FOR APPROVAL

Rev	Date	Revision	By	Chk.
1	09.09.2022	FOR INFORMATION	JG	RY
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3	14.10.2022	FOR INFORMATION	BR	RY
4	09.11.2022	FOR INFORMATION	BR	RY
5	23.11.2022	FOR INFORMATION	BR	RY
6	23.12.2022	FOR INFORMATION	BR	RY
7	06.02.2023	FOR INFOMATION	BR	RY
8	28.02.2023	FOR INFORMATION	BR	RY
9	16.03.2023	DRAFT DA	BR	RY
10	24.03.2023	DRAFT DA	BR	RY
11	31.03.2023	ISSUED FOR APPROVAL	BR	RY

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3W 3E 3E 4N 4S

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Project
Newcastle East End Stage 3 & 4

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Country: AWABAKAL

Drawing Name
FLOOR PLAN - 4S - BASEMENT 01

Drawn

0 1 2 5m
1:100 @A1

Date	Scale	Sheet Size
31.03.2023	1 : 100	@ A1
Drawn	Chk.	Revision
BR	RY	11
Job No.	Drawing No.	
6668	DA-4S-1003	

Appendix C Example Bin Handling Equipment

Universal BIN LIFTER

A battery operated hydraulic push button unit that aids in the lifting and emptying of wheelie bins into dumper bins. Completely Australian Standards compliant, the safety cage and extra guarding adds extra protection for users.

This is an ideal unit for heavy weight and frequent lifts. The push-button operation eliminates manual handling and associated risks of lifting bins.

Suitable for supermarkets, schools, construction sites, apartment blocks, waste management companies, event organisers.

Typical applications

Suitable for supermarkets, schools, construction sites, apartment blocks, waste management companies, event organisers.

Features

Lifting	
Capacity:	250 kg
Mechanism:	Lift-and-tilt
Recommended use	
Per day:	100+ lifts
Bin compatibility	
Wheelie:	80, 120, 140 and 240 litre
Skip:	1500 and 1800 mm
Operation	
Method:	Push-button hydraulic system
Time:	35 seconds
Dimensions (L/W/H)	1500/980/2200 mm
Battery	• 12V rechargeable battery and smart charger • 10A main outlet
Highest tip point	UBL250HYD1500: 2550 mm UBL250HYD1800: 2800 mm

Safety features

- Safety cage and door eliminates all hand and foot crush-points for operators and bystanders.
- Braking castors for stability.
- Sturdy, stand-alone unit.

Tug Compact POWERED TUG

A nimble powered tug that allows a user to tow up to 500 kg safely. It is the ideal tug for towing document, stock, bin, linen and medical trolleys in and around tight spaces and aisles with ease.

Using the tiller handle to tow the tug, the operator is in front of the load, increasing visibility and reducing the risk of collisions.

Powered towing can eliminate push/pull injuries caused by manually moving heavy trolleys or repetitive movements.

See pages 29-31 for hitch options.

MADE IN AUSTRALIA

Typical applications

Suitable for warehouses, hospitals, linen service, casinos, hospitality, universities.

Features

Tow capacity	500 kg on flat ground.
Max. speed	Up to 5 km/hour
Speed mode	Three speed control with forward, reverse and emergency stop.
Usability	• Grey non-marking tyres. • No driver's licence required. • Simple to use. • Quiet, smooth operation. • Zero emissions.
Hitching	• Supplied with a pin hitch. • Wide variety of hitches available for easy attachment to trolleys.
Dimensions (L/W/H)	1100/609/891 mm (handle down)
Battery	Two 12V 33Ah MK-gel batteries with 24V smart charger

Safety features

- Intuitive control with standard automatic safety brake, forward and reverse drive.
- Emergency stop button.
- Emergency back-off button.

	ORDER CODES
Tug Compact 500 kg	TUGCOM500NH
Pin hitch (16 mm)	EDHT1810-002
Pin hitch (19 mm)	EDHT1810-043
Clamp hitch*	EDHTCLAMP001
Self-centering hitch	EDHT1810-006

** Each clamp hitch must be supplied with EDHT1810-006 (self-centering htich) for the Tug Compact.*

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17 Macquarie Drive, Thomastown, VIC 3074
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E: sales@sitecraft.com.au ABN: 36 423 328 526

SITECRAFT SITTECTRACF TRAILERS - RAMP RANGE

Sitecraft motorized 6 x 240 litre bin trailer

Sitecraft 8 x 240 litre bin trailer complete with registration kit (Blue slip)

Movexx T2500-SC tow tug moving 6 x 240 litre bin trailer

Movexx T2500-SC tow tug moving 2 x 1100 litre bin trailer

Appendix D Standard Signage

Waste Signage

Signs for garbage, recycling and organics bin should comply with the standard signs promoted by the NSW Office of Environment and Heritage.

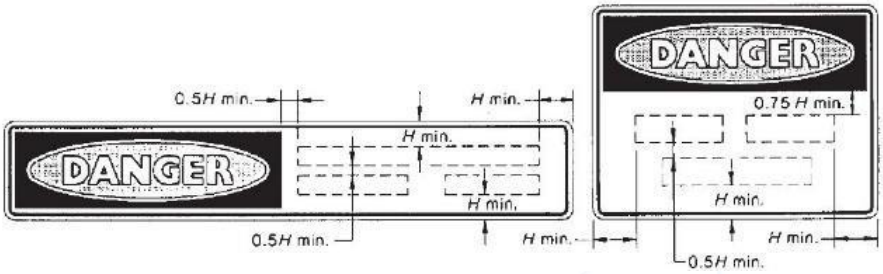
Standard symbols for use in signage, bin facade and educational materials are promoted through the NSW Environment Protection Authority. They are available for download from the NSW EPA website (NSW EPA 2016b), in black and white and colour versions. The Australian Standard series AS 4123 (Part 7) details colours for mobile waste containers (Standards Australia 2008).

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.

(d) Horizontal

FIGURE D5 TYPICAL ARRANGEMENTS OF DANGER SIGNS



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