Forestville RSL & Seniors Living – Waste Management Plan

A Submission to Forestville RSL Club Limited c/o Construction Management Services Pty Ltd

18 September 2024

MRA Consulting Group

Forestville RSL & Seniors Living

A Submission to Forestville RSL Club Limited c/o Construction Management Services Pty Ltd

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Disclaimer

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
DCP	Development Control Plan
ENM	Excavated Natural Material
EPA	Environment Protection Authority
ILU	Independent Living Unit
LGA	Local Government Area
MGB	Mobile Garbage Bin
MRA	MRA Consulting Group
MSW	Municipal Solid Waste
WLEP	Warringah Local Environmental Plan 2011
WDCP	Warringah Development Control Plan 2011
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 Forestville RSL Club Limited c/o Construction Management Services Pty Ltd to prepare a Waste Management Plan (WMP) related to the proposed RSL club and seniors living development located at 22 Melwood Avenue, Forestville. The site is located within the Northern Beaches Council Local Government Area (LGA).

The proposed development includes a 2-stage development inclusive of:

- Stage 1 – RSL Club building with 16 seniors independent living units (ILUs) above; and
- Stage 2 – Three ILU buildings of 3 storeys each, accommodating 39 units.

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

- *Warringah Development Control Plan 2011*
- *Warringah Local Environmental Plan 2011*

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

- NSW EPA (2019) *Better Practice Guide for Resource Recovery in Residential Developments.*

A Waste and Recycling Management Plan has been prepared in accordance with the Warringah DCP 2011, and states the following objectives for waste management:

- To facilitate sustainable waste management in a manner consistent with the principles of Ecologically Sustainable Development (ESD).
- To achieve waste avoidance, source separation and recycling of household and industrial/commercial waste.
- To design and locate waste storage and collection facilities which are convenient and easily accessible; safe; hygienic; of an adequate size, and with minimal adverse impacts on residents, surrounding neighbours, and pedestrian and vehicle movements.
- To ensure waste storage and collection facilities complement waste collection and management services, offered by Council and the private service providers and support on-going control for such standards and services.
- To minimise risks to health and safety associated with handling and disposal of waste and recycled material and ensure optimum hygiene.
- To minimise any adverse environmental impacts associated with the storage and collection of waste.
- To discourage illegal dumping.

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 demolition and construction works through redevelopment, and ongoing occupation of the proposed use.

2 Background

2.1 Description of the Proposed Development

The proposed development includes the following key items:

- Demolition of the existing RSL;
- Construction in the following stages (see Appendix A for excerpt of proposed site plans):
    - **Stage 1:** New single level RSL club, featuring:
        - Restaurant,
        - Lounge,
        - Outdoor terrace area,
        - Kids play area,
        - Gaming area,
        - Café,
        - Administration area,
        - Lobby and reception,
        - Loading dock, and
        - Three levels of basement carparking.
        - Two levels of seniors ILUs above the RSL club with 18 units.
    - **Stage 2:** Three, three storey seniors living buildings, featuring:
        - 39 independent dwellings across the three buildings,
        - One level of basement carparking,
        - Ground floor common area,
        - Gymnasium,
        - Cinema, and
        - Common lounge.

2.2 Location

The site is legally defined as Lot 2589 DP752038 and Lot 31 DP366454 at 22 Melwood Avenue, Forestville in the Northern Beaches Council LGA. The site is surrounded by a predominantly residential area as well as Forestville War Memorial Park, Purple Poppy Dog Park and Forestville Youth Centre (Figure 1).

Figure 1: Site and surrounding area

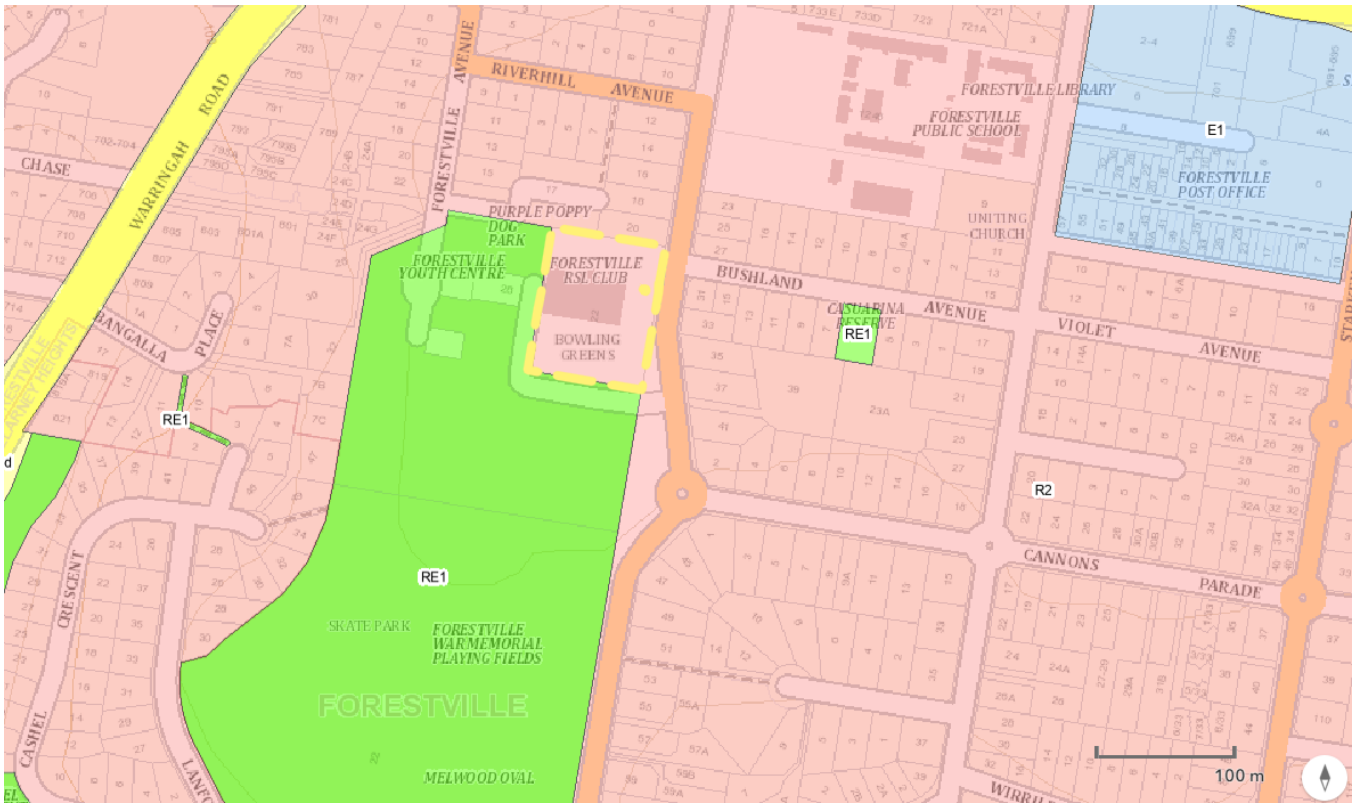
Source: Nearmap, 2024.

2.3 Zoning and Use

The site is zoned as R2 – Low Density Residential according to the Warringah LEP 2011 (Figure 2). The objectives of this zone are:

- To provide for the housing needs of the community within a low-density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- To ensure that low density residential environments are characterised by landscaped settings that are in harmony with the natural environment of Warringah.

Figure 2: Land use zone map



Source: NSW ePlanning Spatial Viewer, 2024.

2.4 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 (NSW EPA, 2021), and National Waste Policy: Less Waste, More Resources (DAWE, 2018). 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 NSW Strategy will assist in achieving the target of 80% diversion from landfill in the C&D sector.

2.5 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 design set for the development plan from the project architect, Quattro Architects, issued on 17/09/2024 (dated 30/08/2024).
- Waste and recycling volumes are based on information provided from the Warringah Development Control Plan 2011; 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 and Demolition

Demolition and construction activities at the site will generate a range of construction and demolition (C&D) waste. 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 demolition or 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.

3.1 Demolition Waste

The proposed development will require demolition of existing structures prior to commencement of excavation and construction operations. Demolition works will include the removal of the existing RSL club. The following objectives are derived from C8 of the Warringah DCP 2011:

- To manage demolition and construction sites so that there is no unreasonable impact on the surrounding amenity, pedestrian or road safety, or the natural environment.
- To promote improved project management by minimising demolition and construction waste and encouraging source separation, reuse and recycling of materials.
- To assist industry, commercial operators and site managers in planning their necessary waste management procedures through the preparation and lodgement of a Waste Management Plan
- To discourage illegal dumping.

Table 1 outlines the expected demolition waste quantities to be generated at the site, in addition to the appropriate management methods for each material type. Other materials with limited reuse potential either on or offsite will be removed in bulk bins for recycling at an appropriately licenced and capable recycling facility.

Table 1: Demolition waste generation estimates

Type of Material	Estimated volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Disposal	Estimated % Landfill	Estimated % of landfill diversion	Methods for re-use, recycling or disposal
Concrete	250 - 500	✓	✓	✓	-	<5%	>95%	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.
Glass	10 - 20	✓	✓	✓	-	<10%	>90%	On site: to be separated wherever possible to enhance resource recovery. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Bricks/pavers	150 - 250	✓	✓	✓	-	<5%	>95%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. The development will be able to reuse a number of existing building bricks as paving in landscaped areas. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Tiles	10 - 20	✓	✓	✓	-	<5%	>95%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: 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)	Disposal	Estimated % Landfill	Estimated % of landfill diversion	Methods for re-use, recycling or disposal
Timber (Treated)	20 - 40	✓	✓	✓	-	50%	50%	Onsite: To be separated wherever possible to enhance resource recovery. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Timber (Clean)	10 - 20	✓	✓	✓	-	0%	100%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Plasterboard	20 - 40	-	✓	✓	-	<10%	>90%	Onsite: To be separated wherever possible to enhance resource recovery. Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Metals (ferrous & non-ferrous)	20 - 40	-	✓	✓	-	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery. Offsite: Removed to C&D facility for recovery and recycling.
Floor covering	10 - 30	-	✓	✓		50%	50%	Should be removed in bulk and sent to carpet recycler or C&D facility for recovery where possible.
Residual waste	30 - 50	-	-	-	✓	100%	-	Resource recovery dependant on facility destination capability.

Type of Material	Estimated volumes (m^3)	Re-use on-site	Recycle (Separate collection)	Recycle (Off-site)	Disposal	Estimated % Landfill	Estimated % of landfill diversion	Methods for re-use, recycling or disposal
Hazardous Waste	Unknown	-	-	-		100%	-	Existing buildings may contain potentially hazardous materials. Should contaminated or potentially hazardous materials be discovered they would be handled according to the demolition and/or materials management plan
Total % Diversion from Landfill Estimated							**>80%**	

3.2 Construction Waste

Construction will occur in the following stages:

- Stage 1: New single level RSL club, featuring:
  - Restaurant,
  - Lounge,
  - Outdoor terrace area,
  - Kids play area,
  - Gaming area,
  - Café,
  - Administration area,
  - Lobby and reception,
  - Loading dock, and
  - Three levels of basement carparking.
  - Two levels of seniors ILUs above the RSL club with 18 units.
- Stage 2: Three, three storey seniors living buildings, featuring:
  - 39 independent dwellings across the three buildings,
  - One level of basement carparking,
  - Ground floor common area,
  - Gymnasium,
  - Cinema, and
  - Common lounge.

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

Table 2: Indicative volume to weight conversion factors for common construction materials

Building waste material	Tones per m^3	Waste as % of the total material ordered
Soil/aggregate	1.4 – 1.6	–
Bricks	1.2	5–10%
Concrete	1.5	3–5%
Tiles/ceramics	0.5 – 1	2–5%
Timber	0.3	5–7%
Plasterboard	0.2	5–20%
Metals	0.15 – 0.9	–

Source: Green Building Code of Australia C&D Waste Criteria.

Table 3 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.

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 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	22,500 – 27,500	✓	✓	✓	<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	<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	100 - 150	✓	✓	✓	<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	✓	✓	✓	<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	<20	-	✓	✓	<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	<5	✓	✓	✓	<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	-	✓	✓	<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	<10	✓	✓	✓	<10%	>90%	On site: to be separated wherever possible to enhance resource recovery. Reuse: surplus and offcut material returned to manufacturer for reuse where possible. C&D processor: recovery and recycling.
Fixtures and fittings	<5	✓	✓	✓			On site: to be separated wherever possible to enhance resource recovery. Reuse: surplus and offcut material returned to manufacturer for reuse where possible. C&D processor: recovery and recycling.
Electronic waste	<52	-	✓	✓	<10%	>90%	Offcut wires and electronics separated where possible or returned to supplier for reuse.
Packaging materials (pallets, wrap, cardboard, etc)	25 - 50	-	✓	✓	<10%	>90%	Returned to supplier where possible or separated by material type for resource recovery.
Residual waste	<25	-	✓	✓	100%	-	Resource recovery dependant on facility destination capability.
Total % Diversion from Landfill Estimated						**>90%**	

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	The following are local skip bin operators for consideration in the management of excavation and construction waste for the site: • Northern Beaches Skip Bins; • Brown Bros. Skip Bins; • Bingo Industries; • Bins Skips Waste and Recycling; 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: • Kimbriki Resource Recovery Centre; • AE Briggs; • Bingo Artarmon or Alexandria; Or another appropriate facility as elected by the waste management contractor.
Principal Licensed Landfill Site	• Kimbriki Resource Recovery Centre Or other appropriate facility as elected by the waste management contractor.

3.4 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 Operational Waste Management

4.1 Overview

Waste management strategies related to site operations have been established according to the Warringah DCP 2011.

The operational aspect of the development includes a new RSL club as well as senior's living buildings.

Waste management strategies related to site operations have been established according to the Warringah DCP 2011 and NSW EPA guideline documents.

The following space calculations are based off the mobile garbage bin (MGB) and bulk bin dimensions sourced from NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) (Table 5).

Table 5: Mobile Garbage Bin (MGB) and Bulk Bin capacity and footprint

Bin Capacity (L)	Height (mm)	Depth (mm)	Width (mm)	Footprint (Approx. m^2)
120	940	560	485	0.30-0.33
240	1,100	735	580	0.41-0.43
660	1,250	850	1,370	0.86-1.16
1,100	1,470	1,245	1370	1.33-1.74

Source: NSW EPA's Better practice guide for resource recovery in residential developments (2019).

4.2 Seniors Living Waste Management

4.2.1 Waste Generation

The development proposes 3 x 3 level seniors living buildings as well as an additional 2 levels above the RSL club (Table 6).

Table 6: Weekly Waste Generation Volumes

Dwelling units	Bedroom Mix	Waste Stream	Generation rate	Weekly Volumes (L)
RSL Units – East Core	2 Bedrooms: 2	General Waste	100	200
		Recycling	100	200
	3 Bedrooms: 6	General Waste	120	720
		Recycling	120	720
RSL Units – East Core Total			**General Waste**	**920**
			Recycling	**920**
RSL Units – West Core	2 Bedrooms: 2	General Waste	100	200
		Recycling	100	200
	3 Bedrooms: 6	General Waste	120	720

Dwelling units	Bedroom Mix	Waste Stream	Generation rate	Weekly Volumes (L)
		Recycling	120	720
RSL Units – West Core Total			**General Waste**	**920**
			Recycling	**920**
Building 1	2 Bedrooms: 8	General Waste	100	800
		Recycling	100	800
	3 Bedrooms: 3	General Waste	120	360
		Recycling	120	360
Building 1 Total			**General Waste**	**1,160**
			Recycling	**1,160**
Building 2	2 Bedrooms: 8	General Waste	100	800
		Recycling	100	800
	3 Bedrooms: 4	General Waste	120	480
		Recycling	120	480
Building 2 Total			**General Waste**	**1,280**
			Recycling	**1,280**
Building 3	2 Bedrooms: 5	General Waste	100	500
		Recycling	100	500
	3 Bedrooms: 11	General Waste	120	1,320
		Recycling	120	1,320
Building 3 Total			**General Waste**	**1,820**
			Recycling	**1,820**
TOTAL			**General Waste**	**6,100**
			Recycling	**6,100**

4.2.2 Waste Storage Requirements

Waste storage has been calculated considering estimations of bin type, as described in the table below (Table 7). The following bin number requirements are based on a weekly collection schedule.

Table 7: Seniors Living waste storage and bin type

Building	Generation rate	Weekly Volumes (L)	Bins Required
RSL Units – East Core Total	General Waste	920	1 x 1,100L bin
	Recycling	920	4 x 240L bins
	Organics	-	1 x 240L bins
	Paper and Cardboard	-	1 x 240L bins
RSL Units – West Core Total	General Waste	920	1 x 1,100L bin
	Recycling	920	4 x 240L bins
	Organics	-	1 x 240L bins
	Paper and Cardboard	-	1 x 240L bins
Building 1 Total	General Waste	1,160	2 x 660L bins
	Recycling	1,160	5 x 240L bins
	Organics	-	1 x 240L bins
	Paper and Cardboard	-	1 x 240L bins
Building 2 Total	General Waste	1,280	2 x 660L bins
	Recycling	1,280	6 x 240L bins
	Organics	-	1 x 240L bins
	Paper and Cardboard	-	1 x 240L bins
Building 3 Total	General Waste	1,820	2 x 1,100L bins
	Recycling	1,820	8 x 240L bins
	Organics	-	1 x 240L bins
	Paper and Cardboard	-	1 x 240L bins
TOTAL	**General Waste**	**6,100**	**4 x 1,100L bins, and 4 x 660L bins**
	Recycling	**6,100**	**28 x 240L bins**
	Organics	**-**	**5 x 240L bins**
	Paper and Cardboard	**-**	**5 x 240L bins**

**includes handling and manoeuvring space in addition to bin footprint.*

Building management can observe the bin fullness levels once the site is fully occupied and adjust the number of bins accordingly. The bin storage area for the site will be sufficiently sized to accommodate proposed bins and have space to facilitate potential changes to waste servicing in the future.

4.2.2.1 Temporary waste storage and disposal

Each dwelling is to be provided with space to store at minimum one day's garbage waste and recycling generated. Residents are to dispose of waste within the general waste chute or 240L recycling bin located on their level. Care takers and/or site cleaners will be responsible for the transfer of paper & cardboard and organic waste from the dwelling to the communal bins within the Waste Storage and Recycling Area (WSRA) on the basement level. Bins from each buildings waste storage area is to be transported to the allocated seniors living temporary bin holding area during collection periods via bin tug/bin cart.

4.2.2.2 Bulky Waste

Bulky waste items include those that cannot be disposed of in general waste and recycling bins, including but not limited to broken/damaged/old whitegoods, furniture, appliances, mattresses, etc. Bulky waste will be stored within the RSL dock area during periods of scheduled council collection. Residents may be assisted by site management or carers to transport bulky waste from their units to the RSL Club bin area as this will have ample space to cater for the temporary storage of bulk items for collection.

4.2.2.3 Residential Waste Chute

Each building will contain a waste chute room with a 660L or 1,100L bin under each chute for general waste. Chute rooms will contain general waste, recycling, paper & cardboard and organics bins in which building management is responsible for maintaining.

Each residential floor level will have a storage cupboard with a general waste chute and 240L recycling bin. Building management is responsible for transporting and switching full bins. Residents or carers will be responsible for transporting organic waste and paper & cardboard waste to the waste storage room.

4.2.3 Waste Consolidation and Collection Requirements

The proposed development will maintain a waste management area for the consolidation of all residential derived waste and bins prior to collection. The waste room will be located near the main vehicle entrance to the RSL dock, identified as 'Seniors Bin Holding' on proposed site plans (see Appendix A).

4.2.3.1 Seniors Bin Holding

The Seniors Bin Holding room will accommodate all residential bins from across the site as described in Table 8.

Table 8: Seniors Bin Holding Room

Waste Stream	Bins Required	Storage Area Requirement (m^2)*
General Waste	4 x 1,100L bins, and 4 x 660L bins	17
Recycling	28 x 240L bins	18
Organics	5 x 240L bins	3.5
Paper and Cardboard	5 x 240L bins	3.5
	Total	**42**

**a factor of 1.5x has been applied to bin footprints to accommodate for storage and handling area within the consolidation/holding room.*

Based on the approximate storage requirements outlined in Table 8, the bin Seniors Bin Holding room will be approximately 42m^2, as shown on site plans (see Appendix A).

4.2.3.2 Collection Schedule

Waste generated from the proposed residential component of the building will be collected once weekly by Council collection. Building Management will be required to present bins from the Seniors Bin Holding room to the kerbside for collection according to Council waste collection schedule.

4.3 RSL Club Waste Management

4.3.1 Waste Generation

Operational waste management addressed in the following section relates to waste generation associated with the various club uses including office areas, function areas, gaming/bar, and a bistro.

The Warringah DCP 2011 does not specify generation rates for specific commercial uses, therefore rates have been taken from NSW EPA's *Better Practice Guide for Resource Recovery in New Developments* (2019). Weekly generation rates are based on a 7-day week as follows:

Table 9: RSL Club Waste Generation

Use type	Area (m^2)	Waste Stream	Generation Rate ($L/100m^2/day$)	Total Weekly Generation (L)
Office	150	General waste	10	105
		Recycling	7.5	79
		Paper & Cardboard*	7.5	79
Function	260	General waste	10	182
		Recycling	25	455
Restaurant/ Kitchen	100	General waste	200	1,400
		Recycling	140	980
		Paper and Cardboard*	140	980
		Food waste**	200	1,400
Licenced Club	1,050	General waste	50	3,675
		Recycling	50	3,675
TOTALS		**General waste**		**5,362L**
		Recycling		**5,189L**
		Paper & Cardboard		**1,059L**
		Food waste		**1,400L**

**Note: Office uses are expected to generate a proportion of paper/cardboard waste of total recycling. Therefore, for the purpose of estimating waste generation, 50% of recycling is assumed to be paper and cardboard waste in this instance. Management may like to opt in to a paper & cardboard collection for further source separation at the site.*

***Food waste generation has been calculated separately at 50% of the rate of general waste, for consideration. Management may wish to further separate this waste stream to increase landfill diversion rates.*

4.3.2 Waste Storage Requirements

Waste storage space has been calculated considering estimations of bin type and collection frequency, as described in the table below (Table 10).

Table 10: Commercial waste storage and collection frequency

Waste stream	Waste generation (L/week)	Waste management options (bins and collection frequency)	Approximate Storage Area requirement (m^2)*
General waste	5,362L	2 x 1,100 L bins collected **Three times** per week	5
Recycling	5,189L	2 x 1,100 L bins collected **Three times** per week	5
Paper & Cardboard	1,059L	1 x 1,100 L bin collected **once** per week	2
Food waste	1,400L	3 x 240 L bins collected **twice** per week	2
Bulky items and other waste (kegs, resi bulk waste, crates, etc)	-	As required	8
		Total approximate space requirement:	**22m^2**

Note: storage space requirement considers additional space of approximately (m^2 x 1.5) for manoeuvring of bins. Food waste stored in bins recommended to be collected at least three times per week to reduce risk of odour impact.

Larger 1,100L wheelie bins are expected to be the most suitable option for the management of general waste and recycling streams for the proposed development. 240L bins are expected to be most suitable for the collection of food & garden organics waste to allow for easier manoeuvrability and servicing given weight of organic waste is generally high. Building management can observe the bin fullness levels once the site is fully occupied and adjust the number of collections accordingly.

Bins will be stored within the loading dock area located on Basement Level 3. A private waste collection vehicle will collect waste from the loading dock with rear loading vehicle, entering and exiting the basement in forward facing direction (see Appendix B).

4.3.3 Temporary Waste Storage

Office and Admin Lobby Areas:

Interim containers within office or BOH areas will be available, sufficient for one day's generation of waste and recycling. Cleaning staff will be responsible for the emptying of these bins daily and transporting waste to the site's commercial bin storage area.

Food and Beverage:

The back-of-house areas of the bar, dining areas and cafe will hold bins for the temporary storage of waste. Bins for general waste, recycling, and food waste at minimum will be provided to allow easier source separation for staff. Bins will be transferred to the bin storage area at minimum once daily for emptying and cleaning and transferred back to the back-of-house.

4.3.4 Bulky Waste

Space for storage of bulky waste resulting from the commercial component of the development is available within the waste storage and recycling area or within BOH areas. Bulky waste removal will be organised promptly with the nominated waste collection contractor to avoid overspill into common areas or corridors.

5 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 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.
- **Garden Waste:** It is expected that landscaping at the site will be maintained by an external contractor who will remove all vegetation waste from ongoing maintenance activities.
- **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.
- **Food Waste:** Commercial food organics waste generation from the development can be collected and treated on-site at small scale should RLS 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.
- **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.
- **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.

5.2 Waste Management and Recycling Method

The flow of **seniors living waste and recycling** goes from generation to collection through several steps:

1. Waste is temporarily stored within the dwelling at its point of generation in an appropriately sized receptacle, clearly marked for type of waste (for example, in the kitchen);
2. Residents are to transfer waste to the waste chute room for appropriate disposal into the respective bins and chute.
3. Site management are responsible for maintenance of bins within each level 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. Site management is responsible for transpiring bins from each chute room to the temporary bin holding area within the basement level of the RSL club to prepare for collection;
5. Site management is to ensure contracts with Council waste services, 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.

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 staff are to transfer waste to the respective waste storage room for appropriate disposal into the respective bin.

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 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.

5.3 Management System and Responsibilities

The site 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 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 Collection Method and Loading Areas

Waste collection for residential bins will occur from the Melwood Avenue kerbside, by Council's waste collection contractor. Building management will be responsible for presenting and returning bins either side of collection.

Commercial waste collection will be completed by a private waste contractor. Waste collection vehicles will access the site directly to the RSL Club loading area, accessed by a driveway at the south-eastern corner of the site. The Traffic Impact Assessment (TIA) prepared by Traffix indicates an MRV class vehicle can ingress and egress the site in a forward-facing direction, utilising the RSL loading area to perform a turning manoeuvre (see also included for reference as Appendix B).

The below table refers to the collection and loading specifications for the development (Table 11).

Table 11: Collection points and loading areas requirements and specification

Component	Requirement	Specification
Collection point	Allow safe waste collection and loading operations	- Adequate clearance and manoeuvring space; - Sufficient clearance for the safe handling of materials and equipment; and - Sectioned loading bay does not impede upon traffic and pedestrian safety.
Vehicle manoeuvring and loading space	Truck space for adequate lift clearance, manoeuvring and operation for a contractor collection vehicle	- Collection from each site use loading area by Councils chosen collection vehicle for seniors living and front lift collection vehicle for the commercial aspect; - Adequate loading bay dimensions to not impede lift clearance;

Component	Requirement	Specification
		- Operational clearance for truck manoeuvring in a forward direction; and - The provision of space clear of vehicle parking spaces (level and free of obstructions).
Operating times	Appropriate collection times to limit noise and traffic disturbance	- Collection times will be arranged during off-peak times to ensure minimal disturbance to pedestrians and visitors.

5.5 Waste and Recycling Storage Areas

The waste areas will provide centralised storage that has adequate capacity to receive and store the maximum likely generation of waste and recycling between collection times. In accordance with best practice, it is recommended the bin storage areas be designed with the following considerations:

- Storage areas reflect the equipment, infrastructure, manoeuvring space and potential future needs of the development;
- Separate Residential and Commercial waste areas will be maintained;
- Be located in a position that is convenient for users and waste collection staff, located away from habitable rooms;
- Waste handling, storage and collection systems for residential and non-residential waste to be separate and self-contained;
- All waste and recycling storage areas and access paths to be kept clean and free of obstructions;
- The floor being graded and drained to an approved drainage outlet connected to the sewer and having a smooth, even surface, coved at all intersections with walls;
- The walls being cement rendered to a smooth, even surface and coved at all intersections; and
- The room shall be adequately ventilated (either natural or mechanical) in accordance with the Building Code of Australia.

5.6 Signage

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, vision impairment and accessibility to convey waste management requirements of the waste management systems at the site. 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 A).

5.7 Prevention of Pollution 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 open and common site areas;

- Ensuring waste areas are well maintained and kept clean;
- Securing the waste storage area 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 Department of Sustainability, Environment Water, Population and Communities (2011) Construction and Demolition Waste Guide - Recycling and Re-use Across the Supply Chain.

Australian Standards 4123.7 Mobile Waste Containers.

Warringah Development Control Plan 2011

Warringah Local Environmental Plan 2011

NSW EPA (2012) Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities.

NSW EPA (2021) NSW Waste and Sustainable Materials Strategy 2041.

NSW EPA (2014) Waste Classification Guidelines.

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

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

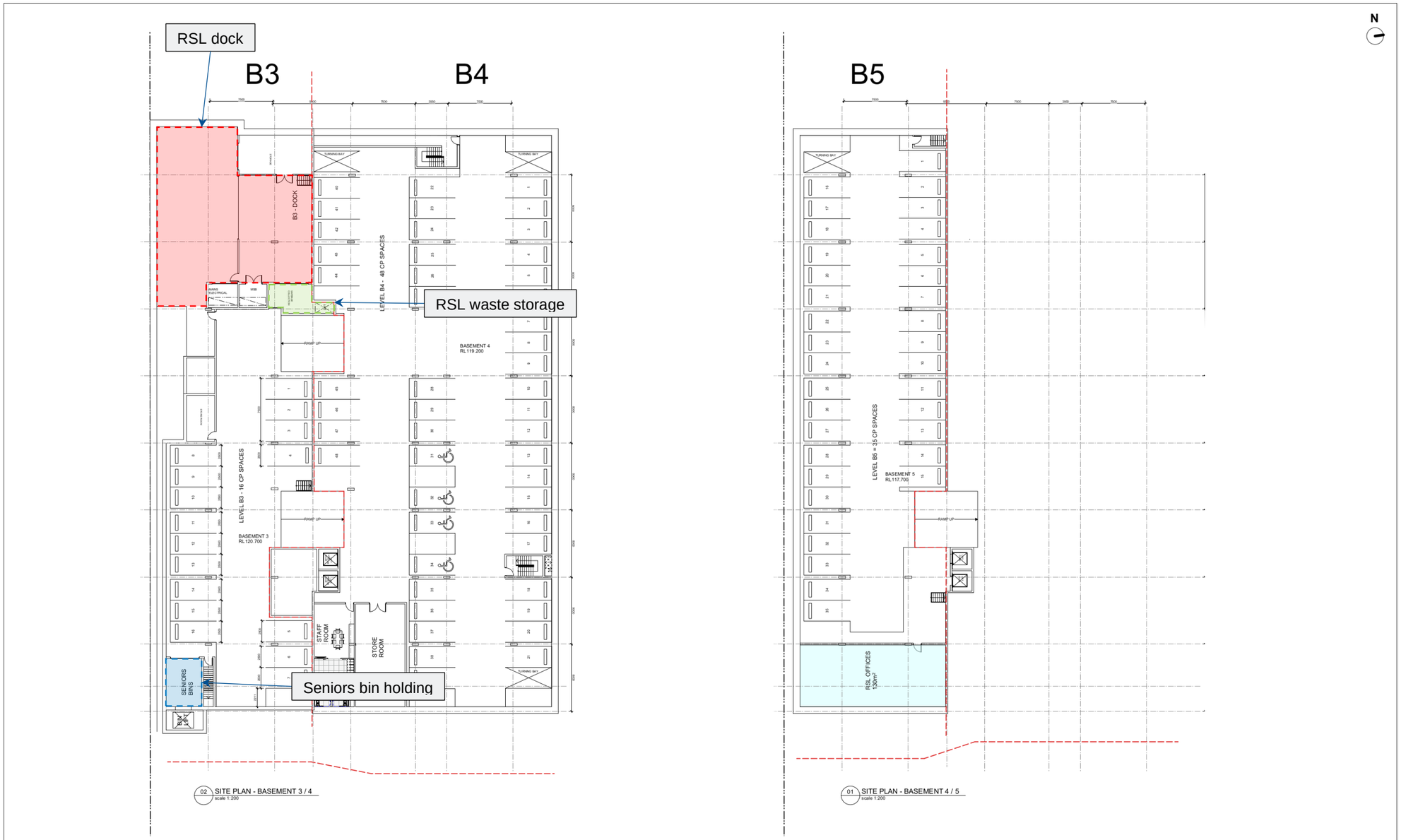
NSW Government (1979) Environmental Planning and Assessment Act.

NSW Government (1997) Protection of the Environment Operations Act.

NSW Government (2000) Environmental Planning and Assessment Regulation.

NSW Government (2001) The Waste Avoidance and Resource Recovery Act

Appendix A Proposed Site Plans



DA

Quattro ARCHITECTURE

Sydney F: 61 2 9091 0190
Suite 129, 117 Old Pittwater Road
Brookvale NSW 2100
Peter Hosking (Director) Registered Architect - 6854

Canberra F: 61 2 6239 4044
Unit 5, 71 Leichhardt Street
Kingston ACT 2604
Tim Zuber Registered Architect - 2384

ACN 150 198 842 **W:** www.qarch.com.au

Rev. No.	Date	Revision	By
A	16/11/2022	CLIENT MEETING	PJH
B	01/12/2023	CONCEPT UPDATE	PJH
C	12/04/2024	B5 ADDED	PJH
D	30/08/2024	DA	PH

CLIENT
FORESTVILLE RSL

PROJECT
CLUB REDEVELOPMENT
22 MELWOOD AVE
LOT 2589 & LOT 31
DP752038 & DP 366454

FROM OUR FAMILY TO YOURS · SINCE 1959 ·

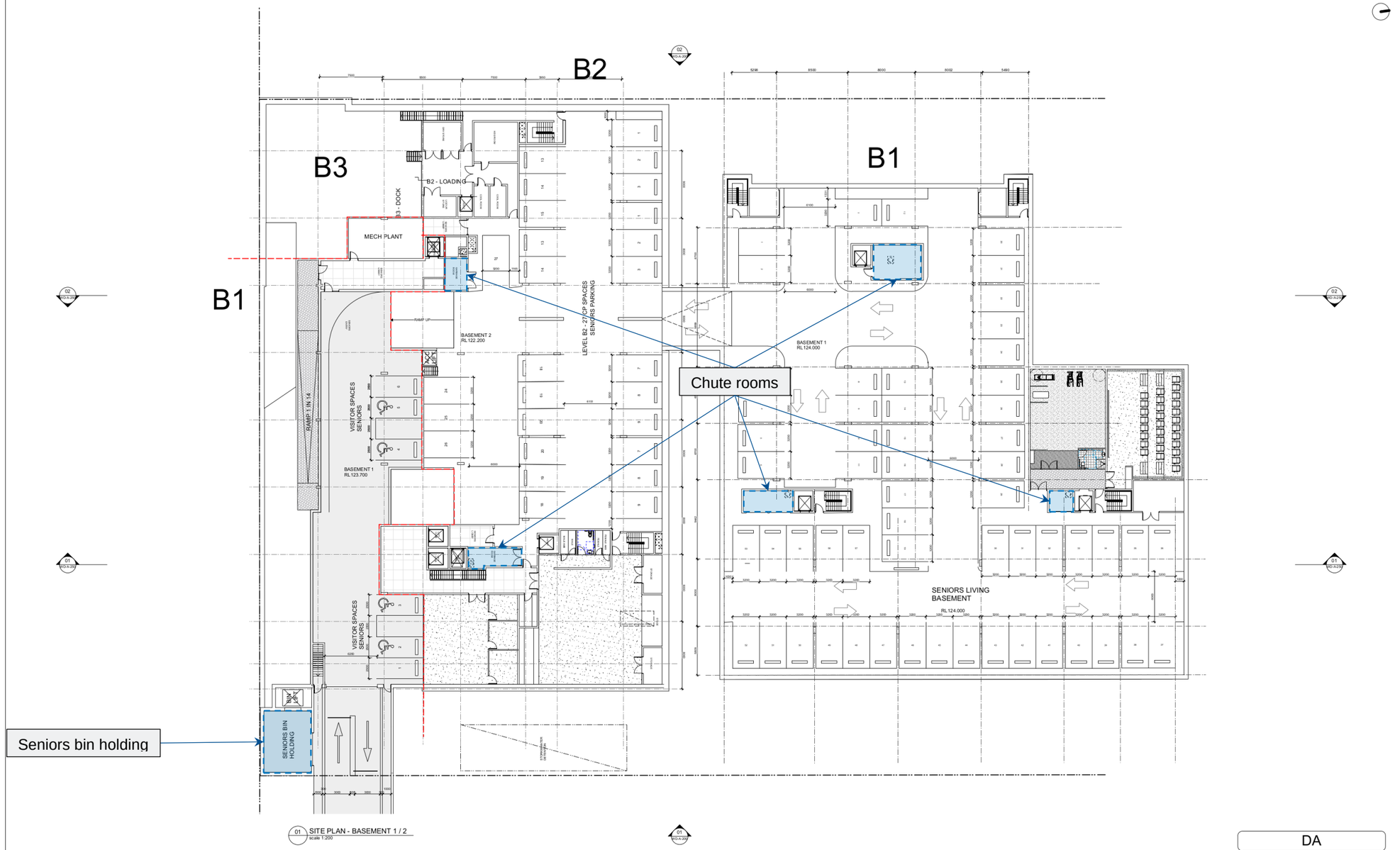
DRAWING
SITE PLAN - BASEMENT 3/4/5

MASTERPLAN SET

Scale at A1 1:200
Scale at A3 1:400
0m 2.5 5 10 15 16

Figured dimensions shall take precedence over scale. Contractors must verify all dimensions on job before commencing any work or making shop drawings.

DRAWN	DATE	CHKD
AL	20/04/2023	PH
PROJECT #	SHEET #	REVISION #
22-0716	DA_A_098	D



01 SITE PLAN - BASEMENT 1 / 2
Scale: 1:200

DA

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B	01/12/2023	CONCEPT UPDATE	PJH
C	12/04/2024	B5 ADDED	PJH
D	30/08/2024	DA	PH

CLIENT
FORESTVILLE RSL

PROJECT
CLUB REDEVELOPMENT
22 MELWOOD AVE
LOT 2589 & LOT 31
DP752038 & DP 366454

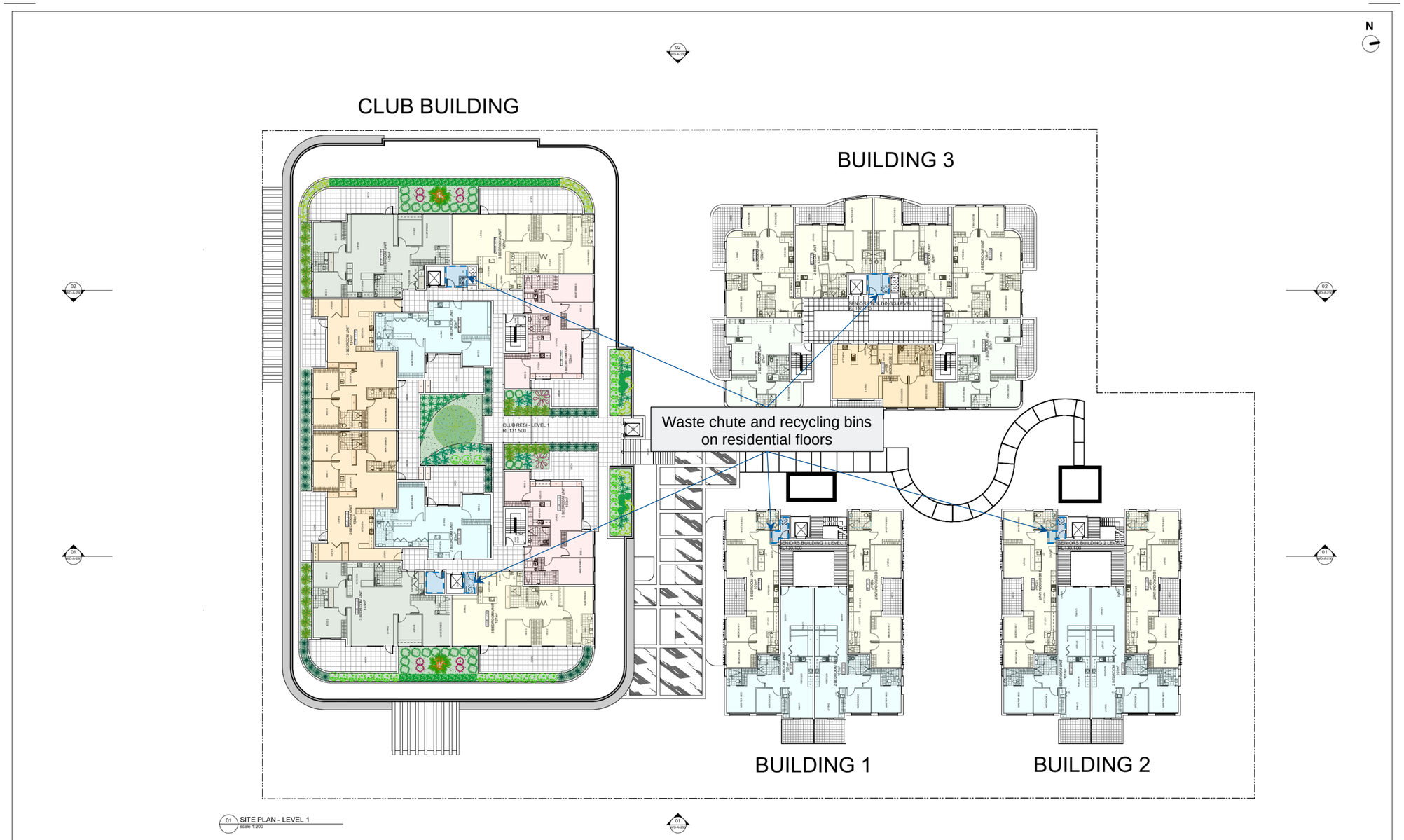
DRAWING
SITE PLAN - BASEMENT 1/2

Scale at A1 1:200
Scale at A3 1:400
0m 2 4 6 8 10 12 14 16

Figured dimensions shall take precedence over scale. Contractors must verify all dimensions on job before commencing any work or making shop drawings.

MASTERPLAN SET

DRAWN	DATE	CHKD
AL	20/04/2023	PH
PROJECT #	SHEET #	REVISION #
22-0716	DA_A_099	D



Source: Quattro Architecture, 2024.

Appendix B Commercial Waste Collection Vehicle Swept Path Analysis

Source: Traffix, 2024.

Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards *(AS/NZS 2890.1:2004 Parking facilities - Off-street car parking,* and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	TM	12-09-24

Swept Path Legend
- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Quattro Architecture

Client
Forestville RSL Club

Scale / Plan Orientation
0 2 4 6 8m
1:200 @ A3

Project Description
Forestville RSL Redevelopment

Drawing Prepared By
TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS
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Drawing Title
Basement Level 3
8.8m Medium Rigid Vehicle (MRV)
Top: MRV entry
Bottom: MRV egress

Drawn:	Checked:	Date:
TM	VD	12-09-24

24.186d04v01 TRAFFIX [240912 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
24.186	DA	TX.04	A

Source: Traffix, 2024.

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.

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.*

Electrodrive

www.electrodrive.com.au | 1300 934 471

movexx
smart electric tugs

MOVEXX T1000-D
BIN MOVER / BATTERY ELECTRIC

The Movexx T1000D takes away the manual effort required to push / pull wheelie bins. It has both variable speed and an overriding dual speed button. A built-in smart control unit is programmable for speed, acceleration and braking, plus numerous other fine-tune adjustments. These units are fitted with an electromagnetic brake system for use on ramps and slopes

A fast and easy-to-remove lithium battery system accepts opportunity charging additional batteries are available allowing for constant usage of the Movexx T100D in high demand applications

Additional batteries can be kept on an external charger, so they are ready for use once the battery indicator changes to red. Many other options are also available on request. Towing hitches are not included and can be ordered separately

SPECIFICATION

MODEL	DIMENSIONS (MM)	OPTIONS	PULL - PUSH CAPACITY (KG)	BATTERY
T1000-D	445 (w) x 1176 (l)	* Centre mount 2x 240 ltr. wheelie bin attachment	1000	Quick Change Lithium

*Optional centre mount 2x 240ltr. bin attachment.
Part number - 5371347.1

SITECRAFT

movexx
smart electric tugs

MOVEXX T2500
BIN MOVER / BATTERY ELECTRIC

Movexx T2500 Tow Tug is an extremely user friendly battery powered mobile towing unit that is ideal for applications where trolleys and rolling objects need to be moved from one place to another simply, efficiently and without physical effort. Some standard features included are: battery indicator, on board battery charger, battery, adjustable handle, dual speed and electric brake.

These units are fitted with an electromagnetic brake system for use on ramps and slopes

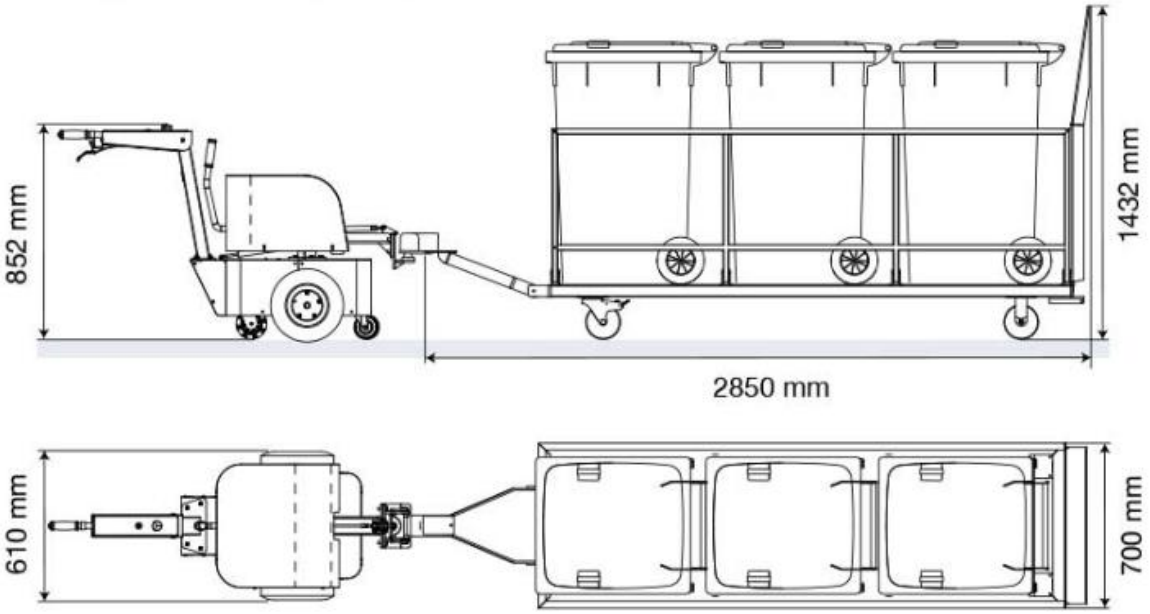
Features
- Electromagnetic brake for use on ramps and slopes
- Adjustable height handle

SPECIFICATION

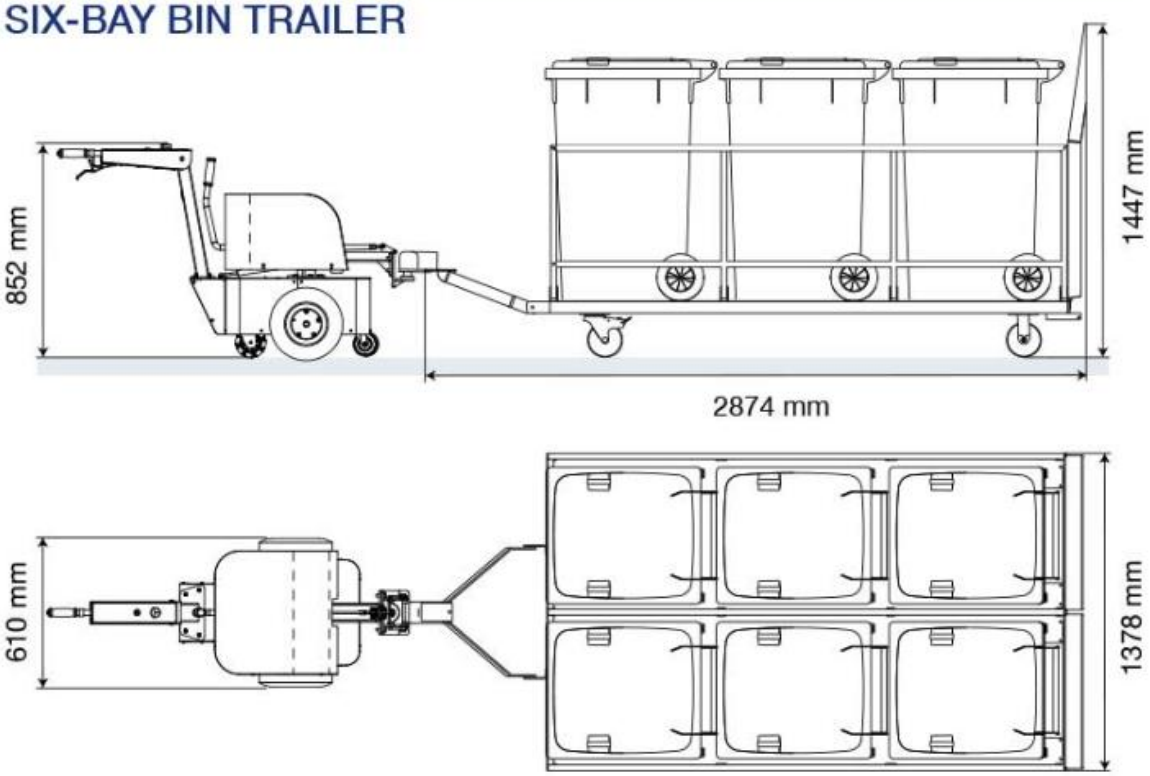
MODEL	DIMENSIONS (MM)	OPTIONS	PULL - PUSH CAPACITY (KG)	BATTERY
T2500-D	511 (w) x 757 (l)	* Centre mount 2x 240 ltr. wheelie bin attachment	2500	AGM batteries 2x 85AH up to 8 hrs continuous operation

SITECRAFT
MATERIALS HANDLING EQUIPMENT
17 Macquarie Drive, Thomastown, VIC 3074
Phone: 1300 363 152 Fax: 1300 722 383
E: sales@sitecraft.com.au ABN: 36 423 328 526

THREE-BAY BIN TRAILER



SIX-BAY BIN TRAILER



Optional steel / aluminium trailers for moving waste bins, linen trolleys, food trolleys, delivery boxes, etc ...

Appendix D Standard Signage

Waste Signage

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the NSW EPA.

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).

Figure 3: Examples of standard signage for bin uses

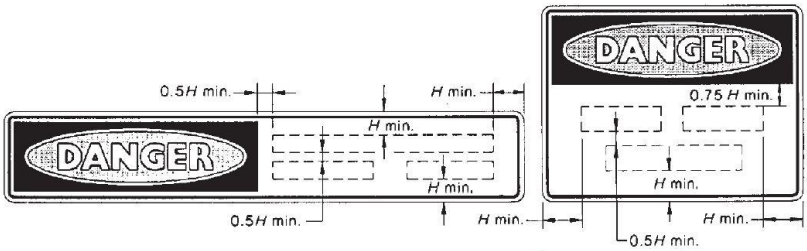
Safety Signs

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 4: Example and layout of safety signage

(d) Horizontal

FIGURE D5 TYPICAL ARRANGEMENTS OF DANGER SIGNS



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