APPENDIX F

Operational Waste Management Plan

Prepared by:

SLR Consulting

Waste Management Plan

Mixed-use Tower Development, 332-334 Water Street, Fortitude Valley

Pelicano Living Pty Ltd

118 Arthur Street
Fortitude Valley QLD 4006

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Australia

SLR Project No.: 620.V31023.00000

6 December 2023

Revision: 2.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	24 November 2023	Damian Balas	Chris Hambling	Chris Hambling
2.0	6 December 2023	Damian Balas	Chris Hambling	Chris Hambling

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Pelicano Living Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Pellicano Living Pty Ltd (the Client) to prepare a Waste Management Plan (WMP) to support the Development Application (DA) for Pellicano's proposed multi-tower Mixed Use Development located at the Corner Brunswick Street & Water Street, Fortitude Valley. This WMP applies to the waste generated from the construction and operational stages of the Development and has been prepared using the architectural drawings supplied by the Client and attached in the Appendix A.

1.1 Objectives

The principal objective of this WMP is to identify all potential wastes likely to be generated at the Project site during construction and operational phases, including a description of how waste would be handled, processed and disposed of, or re-used or recycled, in accordance with Council's requirements.

The specific objectives of this Report are as follows:

- To encourage the minimisation of waste production and maximisation of resource recovery.
- To ensure the appropriate management of contaminated and hazardous waste.
- To identify procedures for waste management.
- To assist in ensuring that any environmental impacts during the operational life of the Development comply with Council's development consent conditions and other relevant regulatory authorities.

1.2 Review of WMP

This Report is not a static document. It is a working document that requires review and updating to ensure ongoing suitability for the proposed on-going operations at the site.

This Report will be reviewed and updated:

- To remain consistent with waste and landfill regulations and guidelines
- If changes are made to site waste and recycling management, or
- To take advantage of new technologies, innovations and methodologies for waste or recycling management.

Copies of the original Report and its future versions should be retained by the site manager during construction. Changes made to the Report, as well as the reasons for the changes made, should be documented by the site manager as part of the review process.

2.0 Project Description

2.1 Overview of Proposed Development

The subject site is located at 332 - 334 Water Street, Fortitude Valley QLD 4006, more formally described as Lot 1 on RP10553, Lots 11 and 12 on RP10552, Lots 5, 6 and 94 on SP266307, Lot 13 on RP81335, Lot 955 on SP206840 and Easement A on SP143465.

This application seeks a PDA Development Permit for a Material Change of Use, involving Multiple Dwelling, Short-Term Accommodation and Centre Activities (Food and Drink Outlet, Office and Shop).

The proposed development involves 477 dwellings (104 studios, 187 1-bedroom, 140 2-bedroom and 46 3-bedroom turnkey apartments across two (2) towers, which have a building height of 30 storeys, plus a rooftop communal terrace. Commercial and retail uses are also proposed, along with expansive public plaza spaces on the ground plane.

The project development site is shown in Figure 1.

Figure 1 - Site Location

3.0 Better Practice Waste Management and Recycling

3.1 Waste Management Hierarchy

This WMP has been prepared in line with the waste management hierarchy shown in **Figure 2**, which summarises the objectives of the *Waste Reduction and Recycling Act 2011*. The waste management hierarchy comprises the following principles, from most to least preferable:

- **Avoid** unnecessary resource consumption
- **Reduce** waste generation and disposal
- **Re-use** waste resources without further manufacturing
- **Recycle** waste resources to make the same or different products
- **Recover** waste resources, including the recovery of energy
- **Treat** waste before disposal, including reducing the hazardous nature of waste
- **Dispose** of waste only if there is no viable alternative

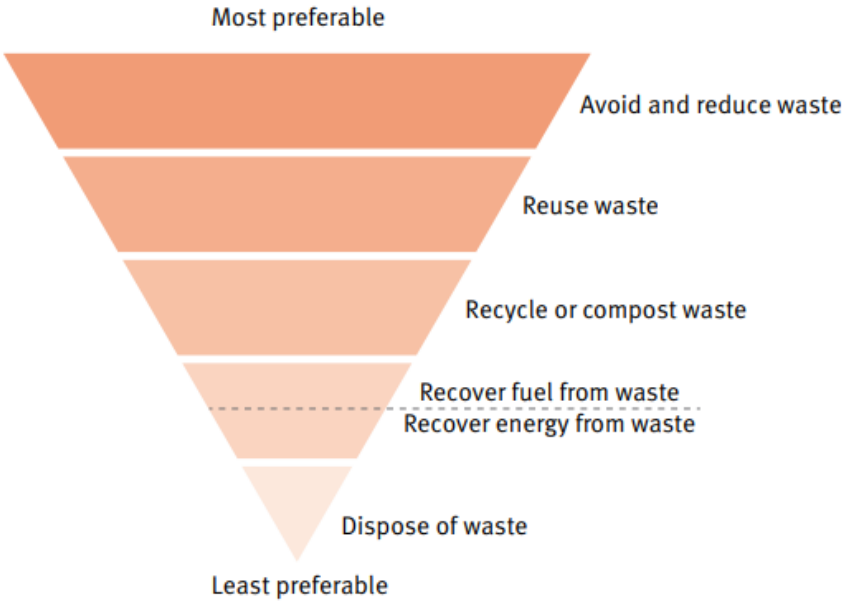


Figure 2 - Waste Management Hierarchy

3.2 Benefits of Adopting Better Practice

Adopting better practice principles in waste minimisation offers significant benefits for organisations, stakeholders, and the wider community. Benefits from better practice waste minimisation include:

- Improved reputation of an organisation due to social and environmental responsibility.
- Lowered consumption of non-renewable resources.
- Reduced environmental impact, for example, pollution, from materials manufacturing and waste treatment.
- Reduced expenses from lower waste disposal.
- Providing opportunities for additional revenue streams through beneficial reuse.

4.0 Waste Legislation and Guidance

4.1 Brisbane City Plan 2014

SC6.26 of the Brisbane City Plan (the City Plan) provides guidelines and advice to satisfy assessment benchmarks for the provision of adequate and appropriate refuse collection facilities for development. Relevant sections are summarised in the following sub sections.

4.1.1 General Requirements

- A written design proposal for waste collection is to be provided giving full details of the number of refuse bins and the storage and collection areas.
- The collection of refuse is to be considered during the planning phase of development. This includes the physical manoeuvring area for the refuse collection vehicle and the bin storage areas and collection points. Access for other road users including pedestrians, cyclists, motorists, and other service providers (e.g., postal) is to be maintained.
- Uses with high trip-end densities provide a transport impact assessment report in accordance with the Transport, access, parking, and servicing planning scheme policy with an assessment of refuse storage and collection included.
- The waste collection system is to achieve the following outcomes:
    - both the customer and service provider can access the bin storage area and collection point conveniently.
    - the location, design and operation of the bin storage and collection system do not have unreasonable adverse acoustic, odour or visual impacts on the development, surrounding properties or the streetscape.
    - the supply and servicing of either mobile garbage bins or bulk bins or refuse compactors complies with the requirements of this planning scheme policy.

4.1.2 Access and manoeuvrability

- If refuse collection is from an on-site bin storage area for multiple dwellings or from mobile garbage bins located throughout a development, the pavement/carriageway trafficked by the refuse collection vehicle is a minimum 6.5m wide.
- For detached dwellings on rear lots, pavements/carriageways trafficked by a refuse collection vehicle have a minimum width of 5.5m.
- The pavement/carriageway has a minimum crossover width of 6.5m and is free from overhanging gardens or trees.
- If the collection point is at the kerbside of the internal private road, it is preferred that mobile garbage bins are placed in front of each dwelling. If there are short dead-end streets off the main internal circulating road, sufficient level areas are to be provided beside the main internal circulating road (near the intersection) for a collection point for the mobile garbage bins required for those dwellings.
- Turning and manoeuvring facilities for refuse collection vehicles are provided to meet design requirements for the vehicles identified in **Table 1**.
- Subdivision layouts are to provide for the safe and efficient operation and manoeuvring of a side loading refuse collection vehicle. Layouts that require a refuse collection vehicle to reverse more than two truck lengths are to be avoided. If a temporary turnaround is provided, an easement in favour of Brisbane City Council for this purpose

will be required over any turning area located within private property. The temporary turnaround is to be constructed to a standard that is satisfactory to Council.

- Adequate lift clearances are provided to overhanging trees and wires in accordance with collection vehicle specifications.
- For mobile garbage bins, if it is necessary to wheel them to a collection point from a bin storage area:
  - the distance does not exceed 50m;
  - the mobile garbage bin transfer path is free of steps or other obstructions and does not exceed a 1:14 grade.
- In instances where the gradient of the on-site manoeuvring area is greater than 5% (1:20), the pad that the collection vehicle will stand on while accessing refuse bins at the collection point, is to have a maximum gradient of 2% (1:50).

4.1.3 Waste Vehicle Dimensions

The BCC Policy show the dimensions of waste collection vehicles. These are shown below in Table 1.

Table 1 Collection Vehicle Specifications

Vehicle type and description	Specifications	Measurement (m)
Rear loading collection vehicle	Length overall	10.24
	Width overall	2.5
	Operational height	3.6
	Travel height	3.6
	Turning circle kerb to kerb	R9.5
Rear loading RORO/compactor vehicle	Length overall	10
	Width overall	2.5
	Operational height	7.1
	Travel height	3.8
	Length in operation	16.5
	Turning circle kerb to kerb	R22.1
Side-loading collection vehicle	Length overall	10.3
	Wheelbase	5.5
	Rear overhang	3.3
	Turning circle kerb to kerb	R9
	Turning circle wall to wall	R10.5
	Front of vehicle to collection arm	3.8
	Maximum reach of side arm	3.0
	Travel width	2.5
	Travel height	4
	Operational height	4.5
Front-lift loading collection vehicle	Length overall	10.52
	Wheelbase	5
	Turning circle kerb to kerb	R11
	Turning circle wall to wall	R12
	Travel width	2.5

Vehicle type and description	Specifications	Measurement (m)
	Travel height	4.2
	Operational height	7

4.1.4 Residential refuse collection

- Residential development is to provide sufficient capacity for 240L of refuse and 240 or 340L of recycling per dwelling, allowing for one collection per week.
- Residential development is to utilise kerbside collection where the locations for both the bin storage area and kerbside collection point can be appropriately accommodated.
- Note—This applies to kerbside collection from a dedicated road frontage and from an internal circulation road where it can accommodate a refuse collection vehicle.
- On-site collection of bulk bins is typically provided for in the following cases:
  - the development cannot accommodate kerbside collection; or
  - the development comprises greater than 10 dwellings; or where the road verge is not properly shaped to the standard 1:50 gradient and a minimum of 2.5m wide or where the longitudinal road gradient is greater than 1:10.
- Refuse and recycling collection for a mixed-use development ensures residential and commercial bins are stored separately with separate access to each.

4.1.5 On-site collection (bulk bins)

- Development will avoid adverse impacts to residents, pedestrians and roads users by limiting the number of collections required per week while ensuring sufficient refuse and recycling capacity is provided to meet the needs of residents. Table 2 provides details of bulk bin volumes and the number of standard 240L kerbside bins their capacity is equivalent to. These are to be used when identifying the required refuse arrangements.

Table 2 Bin capacity equivalency

Bin Volume	No. of equivalent bins
660L	3 x 240L
1000L	4 x 240L
1100L	5 x 240L
1500L	6 x 240L
2000L	8 x 240L
3000L	12 x 240L
4500L	18 x 240L

- The type of refuse service that is to be used (domestic or commercial) is identified, including whether the refuse collection vehicle is to be front loading, side loading or rear loading (sufficient height must be available).
- A written design proposal for waste collection is to be provided, giving full details of the proposed system, bin sizes, number of bins, storage and collection areas, frequency of collection and the refuse collection vehicle size. Table 3 provides the dimensions and types of bulk bins.

Table 3 Refuse bin types and dimensions

Bin type	Capacity	Dimensions (width x height x depth in mm)
Side lift	140L	535 x 915 x 615
	240L	585 x 1060 x 730
Rear lift	140L	535 x 915 x 615
	240L	585 x 1060 x 730
	660L	1260 x 1235 x 780
	1100L	1280 x 1340 x 1080
Front lift	1000L	1480 x 1300 x 1040
	1500L	2080 x 1300 x 1040
	2000L	2080 x 1300 x 1255
	3000L	2080 x 1538 x 1505
	4500L	2080 x 1675 x 1845
Roll on-roll off	10 – 25m3	Various
Compaction system	Carousel 5m3 – 4m3	Various

- The manoeuvring of the refuse collection vehicle is undertaken in a safe and efficient manner, without detrimental impacts to pedestrian amenity or safety, Council or private infrastructure or the function of the road network.
- For multiple dwelling developments fronting a local, neighbourhood, district or suburban road, the refuse collection vehicle may enter the site in a reverse gear in a single movement. An onsite dedicated pedestrian route is provided and is separate from the required vehicle manoeuvring area to ensure pedestrian safety is protected. The pedestrian route is to provide access from the site's frontage to the development and will have a minimum width of 1.2m. The refuse collection vehicle is to leave the site in a forward gear.
- For multiple dwellings developments fronting an arterial road, or where the refuse collection vehicle cannot reverse onto the site in a single movement, the refuse collection vehicle must enter and leave the site in a forward gear.
- All entry and exit points are of a width and design that allows for sufficient ingress and egress for the refuse collection vehicle including a 6.5m crossover.
- To maximise safety, the distance required for refuse collection vehicles to reverse on-site is minimised. Where on-site turnaround of the refuse vehicle cannot be achieved, the bin storage area and collection point is located within 30m of the street frontage.
- Access for a refuse collection vehicle to the collection point is maintained at all times.
- The required vertical and horizontal clearances are provided for the service to operate safely and efficiently. Operational clearance dimensions are shown in Table 2 for various types of collection arrangements.
- Bulk bins of 1.1m^3 or less are positioned so that collection personnel do not have to move them more than 5m. If a gradient is evident, speed bumps are provided to stop bulk bins from rolling away from the collection point.
- Note—Standard design arrangements, including gradients are contained in the Transport, access and parking planning scheme policy.
- Bulk bins of 1.5m^3 or more are positioned so that front-lift refuse vehicles can drive directly to the container without relocating the bulk bin. If this cannot be achieved due

to physical constraints, then the bulk bins are not moved more than 3m from the storage to the collection point.

- The storage areas for bulk bins are:
  - contained in an enclosure or room of sufficient size for the bulk bin quantity required;
  - easily accessible for residents and for the required servicing of bins;
  - screened from neighbouring properties for odour, amenity and noise;
  - protected from the environment;
  - provided with natural or temperature-controlled ventilation if in an enclosed room;
  - kept clear of obstructions, such as fixed bay separators, that impede the ability to change from existing bin sizes or which otherwise limit future refuse collection options;
  - kept clear of other amenities such as air-conditioning units, hot water systems or electrical hubs where located in a bin room.
- If a refuse or recycling chute is provided:
  - it is to be constructed to allow refuse to fall into the centre of the bin;
  - it is to have a door / lid to ensure clean changeover of bins;
  - separate chutes and bulk bins are to be used for each waste stream;
  - the room containing the chute and bin or compactor excludes all but authorised personnel.
  - Environmental best practices may also include the installation of a trapped waste connection to the sewer system and providing a roof canopy over the designated storage area.

4.1.6 Non-Residential Refuse Collection

- The requirements for refuse bins or refuse compactors for non-residential development will be assessed case by case, based on the type and amount of waste generated by the development, which is dependent on the operational activities of the development.
- Sufficient information is provided to demonstrate that refuse collection can occur in an efficient and safe manner on site without adverse impact on amenity (acoustic, odour or visual impacts) and pedestrian and vehicular traffic.
- This information may include evidence from a refuse collection contractor to demonstrate that collection will occur outside normal service/delivery or business times, where seeking permission to allow a refuse collection vehicle to use service bays or parking spaces on the site for access.

4.2 Other Waste Legislation and Guidance

The legislation and guidance outlined in Table 4 below should be referred to during the site preparation, construction and operational phases of the Project.

Table 4 Legislation and Guidance

Legislation and Guidelines	Objectives
Council legislation and guidelines	
Brisbane City Plan 2014	The planning scheme sets out the Brisbane City Council's intention for the future development in the planning scheme area, over the next 20 years. It seeks to advance state and regional policies, through more detailed local responses, taking into account the local context. Relevant sections of the City Plan for the Development WMP Include: Schedule 6 – SC6.26 Refuse planning scheme policy
Refuse Requirements for Development in Brisbane 2022	Document is designed to help applicants provide well-made applications that demonstrate compliance with the assessment benchmarks of the City Plan, in particular performance outcomes, in the context of the development site.
Southeast Queensland Waste Management Plan	Document sets out a directional path forward for action and collaboration across the Councils of Southeast Queensland as they address the challenges and opportunities associated with municipal solid waste management across the region, in the context of a rapidly shifting set of sector dynamics.
State and National legislation and guidelines	
Building Code of Australia (BCA) and relevant Australian Standards	The BCA has the aim of achieving nationally consistent, minimum necessary standards of relevant health and safety, amenity and sustainability objectives efficiently.
Council of Australian Governments National Construction Code 2016	The National Construction Code 2016 sets the minimum requirements for the design, construction and performance of buildings throughout Australia.
Queensland Waste Management and Resource Recovery Strategy	The *Queensland Waste Management and Resource Recovery Strategy* provides the state's strategic plan for improving the ways of managing waste in Queensland and improving the reuse of resources that have traditionally been discarded. The Strategy's objectives are to guide the transition to a more circular economy, reduce the amount of waste disposed to landfill, reduce the amount of illegally disposed waste, and provide a more sustainable source of end-of-life products and materials for new products.
Environment Protection Act 1994	The *Environment Protection Act 1994* is administered by the QLD Department of Environment and Science (DES) to enable the QLD Government to establish instruments for setting environmental standards, goals, protocols and guidelines. The Act outlines the obligations and duties to prevent environmental harm, nuisances and contaminations. The Act also outlines the regulatory requirements for enforcement tools that can be used to manage offences or acts of non-compliance.
Environmental Protection Regulation 2019	The *Environment Protection Regulation 2019* provides the details for the processes that are identified in the *Environment Protection Act 1994,* including details on prescribed activities, prescribed environmentally relevant activities (ERAs), fees such as application and annual fees, waste tracking requirements and more.
Waste Reduction and Recycling Act 2011	The *Waste Reduction and Recycling Act 2011* aims to promote waste avoidance and resource recovery
Waste Reduction and Recycling Regulation 2011	The *Waste Reduction and Recycling Regulation 2011* provides the details for the processes that are identified in the *Waste Reduction and Recycling Act 2011*, including details on the waste disposal levy, the end of waste framework, application fees listed in the *Waste Reduction and Recycling Act 2011*, the management of used packaging materials, and the roles and responsibilities for the planning and reporting of waste management.
Work Health and Safety Act 2011	The *Work Health and Safety Act 2011* provide detailed actions and guidance associated with the topics discussed in The Work Health and Safety Act 2011. The primary aim of the Act is to protect the health and safety of workers and ensure that risks are minimised in work environments. Workplaces are to ensure that they are compliant with the requirements specified in the Act.

Legislation and Guidelines	Objectives
Work Health and Safety Regulation 2011	The *Work Health and Safety Regulation 2011* provides the details for the processes that are identified in the *Work Health and Safety Act 2011.* The regulations discuss items such as actions that are prohibited or obligated in work environments, the requirements for obtaining licences and registrations, and the roles and responsibilities of staff in workplaces.

5.0 Construction Waste and Recycling Management

5.1 Targets for Resource Recovery

Targets for new development are expected to contribute to state specific targets. *The Queensland Waste Management and Resource Recovery Strategy (2020-2050)* sets a target of 80% average recovery rate from all waste streams by 2030, and 90% by 2050. Recovery rates in Queensland for 2022 were 78% for construction and demolition waste, and 50% for commercial and industrial waste.

It is anticipated that the waste minimisation measures in the following sections will assist the Development to contribute towards these targets. Waste reporting and audits can be used to determine the actual percentage of wastes that have been recycled during the construction and site preparation stage of the Development if required.

5.2 Waste Streams and Classifications

The site preparation and construction of the Project is likely to generate the following broad waste streams:

- Site clearance waste
- Construction waste
- Construction Plant maintenance waste
- Packaging waste, and
- Work compound waste from on-site employees.

A summary of likely waste types generated from demolition and construction activities, along with their waste classifications and proposed management methods are provided in Table 5. For further information on how to determine a waste's classification refer to the *QLD DES (2019) Overview of regulated waste categorisation*[1]. All wastes are assumed to meet the definition of a "General Waste" unless stated.

Table 5 Potential waste types and their management methods

Waste Types	Proposed Management Method
Site Clearance	
Green waste including trees and timber fences	Separated, some chipped and stored on-site for landscaping, remainder to landscape supplies or off-site recycling. Stumps and large trees to landfill.
Clean fill	On-site re-use
Contaminated fill (potentially regulated waste or requires soil disposal permit)	Off-site treatment or disposal to landfill

[1] DES, 2019. Information Sheet – Regulated Waste, Overview of Regulated Waste Categorisation, accessed 03 May 2022 2022 from https://environment.des.qld.gov.au/__data/assets/pdf_file/0026/89333/era-is-categorising-regulated-waste.pdf

Waste Types	Proposed Management Method
Excavated natural material	On-site re-use of topsoil for landscaping of the site, off-site beneficial re-use or send to landfill site.
Construction	
Sediment fencing, geotextile materials	Reuse at other sites where possible or disposal to landfill
Concrete	Off-site recycling for filling, levelling, or road base
Bricks and pavers	Cleaned for reuse as footings, broken bricks for internal walls, crushed for landscaping or driveway use, off-site recycling
Sand or soil	Off-site recycling
Gyprock or plasterboard	Off-site recycling or returned to supplier
Metals such as fittings, appliances and bulk electrical cabling, including copper and aluminium	Off-site recycling at metal recycling compounds and remainder to landfill
Conduits and pipes	Off-site recycling
Timber (Sawdust and shavings of treated timber are considered a regulated waste, whole timber offcuts are a general waste)	Off-site recycling; Chip for landscaping; Sell for firewood Treated: reused for formwork, bridging, blocking, propping or second-hand supplier Untreated: reused for floorboards, fencing, furniture, mulched second-hand supplier, and remainder to landscape supplies.
Doors, windows, fittings	Off-site recycling at second-hand supplier
Insulation material	Off-site disposal
Glass	Off-site recycling
Fluorescent light fittings and bulbs (Regulated Waste)	Off-site recycling or disposal, contact FluoroCycle for more information[2]
Paint (Regulated Waste)	Off-site recycling, Paintback collection[3] or disposal
Synthetic Rubber or carpet underlay	Off-site recycling, reprocessed for other uses
Ceramics including tiles	Off-site recycling
Carpet	Off-site recycling, disposal or reuse
Plant Maintenance	
Empty oil and other drums or containers, such as fuel, chemicals, paints, spill clean ups	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility Note: Discharge to sewer subject to Trade Waste Agreement with local Council
Air filters and rags	Off-site disposal
Oil filters	Off-site recycling
Batteries	Off-site recycling, Contact the Australian Battery Recycling Initiative[4] for more information
Packaging	

2 http://www.fluorocycle.org.au/ or http://www.environment.gov.au/settlements/waste/lamp-mercury.html

3 https://www.paintback.com.au/

4 http://www.batteryrecycling.org.au/home

Waste Types	Proposed Management Method
Packaging materials, including wood, plastic, including stretch wrap or LLPE, cardboard and metals	Off-site recycling
Wooden or plastic crates and pallets	Reused for similar projects, returned to suppliers, or off-site recycling. Contact *Business Recycling* for more information[5]

5.3 Construction Waste Types and Quantities

In the absence of readily available construction waste generation rates from Council, SLR has adopted waste generation rates from Appendix A of the Hills Development Control Plan (DCP) 2012 for estimating the type and quantities of waste generated from construction of the Development. SLR has adopted the 'Office' rates to measure waste expected from construction activities. These waste generation rates are shown in Table 6.

Table 6 Waste generation rates for the construction of the Development

Rate Type	Floor Area (m^2)	Waste types and quantities (m^3)						
		Timber	Concrete	Bricks	Gyprock	Sand or Soil	Metal	Other
Office	1,000	5.1	18.8	8.5	8.6	8.8	2.75	5

These areas are based on the areas provided in the architectural plans attached in the Appendix A.

The construction waste quantities anticipated from the construction of the Development are provided below in Table 7.

Table 7 Estimated types and quantities of construction waste

Development component	Area (m^2)	Waste types and quantities (Te)						
		Timber	Concrete	Bricks	Gyprock	Sand and Soil	Metal	Other
Total	44,327	226	93	73	20	213	27	22

At the time of preparing this plan, architectural drawings with storage details for construction waste were not available. This is to be updated by the site manager once waste streams, estimated quantities, and final disposal locations and recycling services have been identified.

5.4 Waste Avoidance

In accordance with better practice waste management, the Building Contractor, Building Designer and/or those in equivalent roles should:

- Develop a purchasing policy based on the approximate volumes of materials to be used so that the correct quantities are purchased.
- Arrange for delivery of materials 'as needed' to avoid material degradation through weathering and moisture damage.
- Communicate strategies to handle and store waste to minimise environmental, health and amenity impacts.
- Select materials with a low environmental impact over the lifecycle of the building.

5 https://businessrecycling.com.au/info/

- Choose timber from certified plantations and avoid unsustainable timber imports including western red cedar, oregon, meranti, luan or merbau.
- Use leased equipment rather than purchase and disposal, where possible.
- Minimise site disturbance and unnecessary excavation, where possible.
- Incorporate existing trees and shrubs into the landscape plan.
- Design the Project to require standard material sizes or make arrangements with manufacturing groups for the supply of non-standard material sizes.
- Design works for de-construction.
- Reduce packaging waste by:
    - Returning packaging to suppliers where practicable to reduce waste further along the supply chain
    - Purchasing in bulk
    - Requesting cardboard or metal drums rather than plastics
    - Requesting metal straps rather than shrink wrap, and
    - Using returnable packaging such as pallets and reels.
    - Use prefabricated materials.
    - Select materials for Project works with low embodied energy properties or materials that have been salvaged or recycled for the construction of the Project including concrete that utilises slag and fly ash content, structural and reinforced steel that uses recycled steel content or bulk insulation products that contain recycled content, such as recycled glass in glass-wool.
- Preferentially use paints, floor coverings and adhesives with low VOC (Volatile Organic Compound) content.
- Reduce the use of polyvinyl chloride products.
- Implement measures to prevent the occurrence of windblown litter, dust and stormwater pollution.
- Ensure subcontractors are informed of and implement site waste minimisation and management procedures.

5.5 Reuse, Recycling and Disposal

Effective management of construction materials and construction and demolition waste, including options for reuse and recycling where applicable and practicable, will be conducted. Only waste that cannot be cost-effectively reused or recycled are to be sent to landfill or appropriate disposal facilities.

In accordance with Council requirements and best practice waste management, the following specific procedures should be implemented:

- Maximise reuse and recycling of building and construction materials and minimise disposal of materials to landfill.
- Ensure waste is minimised by the reuse and recycling of excavated and building materials on-site or in the design and construction of the building or other buildings.
- Identify and nominate opportunities to reuse materials from the demolition and excavation phase for the proposed new use as well as potential waste materials,

such as recyclable packaging, off-cuts and other excess materials as part of the construction process.

- Reuse timber formwork or waste corrugated iron as formwork and examine the useability of other materials for productive purposes.
- Maximise reuse and recycling of materials from demolition and construction which can be assisted by deconstruction, where the various building components are carefully dismantled and sorted.
- Source separation of offcuts to facilitate reuse, resale or efficient recycling.
- Temporary stockpiling of surplus materials for use in later stages.
- Building waste materials shall be reused, recycled or disposed to approved landfill sites.
- Store waste on site appropriately to prevent cross-contamination and guarantee the highest possible re-use value.
- Consider the potential of any new materials to be re-used and recycled at the end of the Project's life.
- Retain used crates for storage purposes unless damaged.
- Recycle cardboard, glass and metal waste.
- Recycle or dispose of solid waste timber, brick, concrete, asphalt and rock, where such waste cannot be re-used on site, to an appropriately licenced construction and demolition waste recycling facility or an appropriately licenced landfill.
- Deliver batteries and florescent lights to drop off-site recycling facility.
- Return excess materials and packaging to the supplier or manufacturer.
- Dispose of all garbage via a council approved system.

5.6 Waste Storage and Servicing

5.6.1 Waste Segregation and Storage

Deploying better practice waste management, waste materials from site preparation, demolition and construction activities should to be separated at the source and stored separately on-site where possible.

It is anticipated that the construction plan will allow for the siting of bins and areas on-site for the sorting, recycling, and disposal of waste arisings. There should be enough space for separate storage, for example, separate skip bins or appropriately managed stockpiles, of the following waste types:

- Landfill waste
  - Non-recyclable general waste.
- Recyclable waste;
  - Bricks, concrete and scrap metal
  - Metal and steel, in a condition suitable for recycling at metal recycling facilities
  - Timber
  - Glass

  - Hardstand rubble
  - Paper and cardboard
  - General co-mingled recycling waste and
- Reusable materials and
- Excavation materials.
  - Uncontaminated excavation spoil, if present
  - Contaminated excavation spoil, if present
- Hazardous waste, if present.

If there is insufficient space on-site for full segregation of waste types, the Site Manager, or equivalent role, should consult with the waste and recycling collection contractor to confirm which waste types may be co-mingled prior to removal from the site.

5.6.2 Waste Storage Areas

Waste storage areas during construction will be accessible and allow enough space for storage and servicing requirements. The storage areas will also be flexible in order to cater for change of use throughout the development. Where space is restricted, dedicated stockpile areas are to be delineated on the site, with regular transfers to dedicated skip bins for sorting.

All waste placed in skips or bins for disposal or recycling will be adequately contained to ensure that the waste does not fall, blow, wash or otherwise escape from the site. Waste containers and storage areas are to be kept clean and in a good state of repair.

Where a skip is required and on-site constraints do not enable it to be located on the property, a separate application for a road occupancy license is required.

In accordance with better practice waste management, areas designated for waste storage should:

- Allow for appropriate vehicular access to enable the removal of waste materials for reuse, recycling and/or disposal.
- Ensure construction materials are to be stored separately from waste and recycling materials to enable easy access for waste collectors.
- Allow unimpeded access by site personnel and waste disposal contractors
- Consider environmental factors which could potentially cause an impact to the waste storage, such as slope, drainage and the location of watercourses and native vegetation
- Not present hazards to human health or the environment.

Stockpiles of topsoil, sand, aggregate, soil or other material should not be located on any drainage line or easement, natural watercourse, footpath or roadway and shall be protected with adequate sediment controls.

5.6.3 Waste Servicing and Record Keeping

Documentation, such as receipts or weighbridge dockets, for the transport and disposal of waste and recycling materials from the site must be retained. The Site Manager or equivalent role is to:

- Keep records of waste disposal, waste or tipping receipts or dockets, at a minimum:
  - Descriptions and estimated amounts of all waste materials removed from site
  - Details of the waste and recycling collection contractors and facilities receiving the waste and recyclables
  - Records of waste and recycling collection vehicle movements, for example, date and time of loads removed, licence plate of collection vehicles, tip dockets from receiving facility, and
  - Waste classification documentation for materials disposed to off-site recycling or landfill facilities.
- Ensure demolition occurs in accordance with the relevant Australian Standards.
- Arrange for suitable waste collection contractors to remove any construction waste from site
- Provide designated areas on the site sufficient colour coded or labelled storage bins, containers or stockpiles for separated and any left-over waste from the construction process in locations with convenient vehicular access for removal by the waste contractor.
- Ensure waste bins are not filled beyond recommended filling levels
- Ensure that all bins and loads of waste materials leaving site are covered
- Remove waste during hours approved by Council.

If skips and bins are reaching capacity, removal and replacement should be organised as soon as possible. All site generated building waste collected in skips and bins will leave the site and be deposited in the approved site lawfully able to accept them.

Any contaminated material to be removed from the site shall be disposed of to an appropriately licensed waste management facility permitted to receive that waste under the requirements of the Environmental Protection Act.

5.7 Site Inductions

All staff, including sub-contractors and labourers, employed during the site preparation and construction phases of the Development must undergo induction training regarding waste management for the Site.

Induction training is to cover, as a minimum, an outline of the WMP including:

- Legal obligations and targets
- Emergency response procedures on-site
- Waste priorities and opportunities for reduction, reuse and recycling
- Waste storage locations and separation of waste
- Procedures for suspected contaminated and hazardous waste
- Waste related signage
- The implications of poor waste management practices, and
- Responsibilities and reporting, including identification of personnel responsible for waste management and individual responsibilities.

It is the responsibility of the Site Manager or Building Contractor to notify Council of the appointment of waste removal, transport or disposal contractors for certain types of waste, where necessary.

5.8 Signage

Standard signage is to be posted in all waste storage and collection areas. All waste containers should be labelled correctly and clearly to identify stored materials.

5.9 Roles and Responsibilities

All personnel have a responsibility for their own environmental performance and compliance with all legislation. It will be the responsibility of the Building Contractor to implement the WMP, and an employee and subcontractor responsibility to ensure that they always comply with the WMP. Where possible, an Environmental Management Representative should be appointed for the Development. Suggested roles and responsibilities are provided in Table 8.

Table 8 Suggested roles and responsibilities for site preparation and construction waste management

Responsible Person	General Tasks
Construction Site Manager	Ensuring plant and equipment are well maintained.
	Ordering only the required number of materials.
	Keeping materials segregated to maximise reuse and recycling.
	Ultimately responsible for routinely checking waste sorting and storage areas for cleanliness, hygiene and safety issues, contaminated waste materials, and also ensuring that all monitoring and audit results are well documented and carried out as specified in the WMP.
Construction Environmental Manager or equivalent	Approaching and establishing the local commercial reuse of materials where reuse on-site is not practical.
	Establishing separate skips and recycling bins for effective waste segregation and recycling purposes.
	Ensuring staff and contractors are aware of site requirements.
	Provision of training of the requirements of the WMP and specific waste management strategies adopted for the Development.
	Contaminated waste management and approval of off-site waste transport, disposal locations and checking licensing requirements.
	Approval of off-site waste disposal locations and checking licensing requirements.
	Assessment of suspicious potentially contaminated materials, hazardous materials and liquid waste.
	Monitoring, inspection and reporting requirements.

Daily visual inspections of waste storage areas may be delegated to other on-site staff. All subcontractors will be responsible for ensuring that their work complies with the WMP through the development induction and contract engagement process.

6.0 Operational Waste Management

6.1 Targets for Resource Recovery

The waste management performance of the proposed activity should contribute to the overall QLD State targets for waste diversion outlined in the Queensland Waste Management and Resource Recovery Strategy (2020-2050). The strategy seeks to drive an increase in recycling and resource recovery rates for all waste streams. The waste streams emanating from the proposed development will be predominantly household of the municipal solid waste (MSW) from apartments with a smaller amount generated from commercial units. The overall aim of the Strategy is to reduce the amount of waste that currently goes to landfill. Recovery rates in Queensland for 2022 were 27% for MSW and 50% for commercial and industrial waste, compared to targets of 55% and 65% by 2025 respectively.

It is anticipated that the waste minimisation measures in the following sections will assist the Development to support the state's targets. Waste reporting and audits can be used to determine the actual percentage of waste that are being, or have been, recycled during operation.

6.2 Estimated Types and Quantities of Operational Waste

The development will predominantly generate waste within residential solid waste stream derived from apartments. Additionally, there will be solid waste generated from the retail tenancies located at the ground level. The operation of the proposed development is anticipated to generate the following waste streams:

- General waste
- Food waste
- Beverage containers
- Food packaging wastes (cardboard, plastics etc.)
- Bulk packaging wastes, including polystyrene, plastic wrapping, and cardboard boxes
- E-waste
- Furniture
- Light bulbs

Potential operational waste types, their associated waste classifications and management method are provided in **Table 9**.

Table 9 Potential Operational Waste Types

Waste Types	Proposed Management Method
General Operations	
Food waste	Initially captured within residual waste bin however if Council or other providers offer a commercial food organic waste collection service in the future this material could be diverted. This would require segregation within the complex and the material would be sent to a suitably licensed organics recycling service provider. Segregate at collection and recycle to compost or disposal at landfill with general waste.
General waste such as soiled paper and cardboard, and polystyrene	Disposal at landfill

Waste Types	Proposed Management Method
Recyclable beverage containers including glass and plastic bottles, aluminium cans and steel cans	Co-mingled recycling at off-site licensed facility or at Queensland container deposit scheme facility.
Clean paper and cardboard	Captured within the commingled recycling stream and sent for recycling by Councils service provider once collected
E-waste	Off-site recycling
Furniture	Off-site reuse or disposal to landfill
Waste oils	Stored according to AS 1940-2004: *The storage and handling of flammable and combustible liquids* and disposed of at off-site licenced facility.
Maintenance	
Spent smoke detectors[6]	Disposal to landfill, or off-site disposal at licensed facility
Glass, other than containers	Off-site recycling
Light bulbs and fluorescent tubes	Off-site recycling or disposal, contact FluoroCycle[7] or Lamp Recyclers[8] for more information
Cleaning chemicals, solvents, area wash downs, empty oil or paint drums, chemical containers	To comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility.
Garden organics - lawn mowing, tree branches, hedge cuttings, leaves	Reuse on-site or contractor removal for recycling at licenced facility.

6.3 Estimated Quantities of Operational Waste

To provide estimated quantities of operational waste we have referred to the Brisbane City Refuse Planning Scheme. The rates for studio, one-, two-, three-bedroom apartments were based on the Section 4.1.3 of the BCC Plan 2014, Schedule SC6.26 and with reference to the '*Refuse Requirements for Development in Brisbane 2022'*. This requires waste generation rates of 240L for general waste/garbage and 240L for recyclables to be allowed for per dwelling.

Office waste generation rates are provided on a litre per 100 m^2 floor area per day basis and were used to estimate the waste generated from the commercial areas. The use of the retail ground floor is unknown, however, rates for "Food and Drink" were applied to the retail tenancies of the proposed development as the highest possible generation rate. The assumed waste generation rates and resulting estimates of weekly waste quantities for the development are shown in **Table 10** and **Table 11** below.

[6] The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) require that when more than 10 smoke alarms (particularly americium-241 sources) are collected for bulk disposal they must be treated as radioactive waste and the requirements of the National Health and Medical Research Council's Code of practice for the near-surface disposal of radioactive waste in Australia (1992) must be met.

[7] https://www.fluorocycle.org.au/

[8] https://www.lamprecyclers.com.au/

General Waste and Recycling

Table 10 Waste Generation Estimates – Brunswick Street Tower

Space or room	Number of dwellings / GFA	Rate category (BCC)	L/dwelling/day or L/100m2/day		Number of days operation	Total per Week (L)	
			Garbage	Recycling		Garbage	Recycling
Studio apt	104	Rate per dwelling	240 L/dw/wk	240 L/dw/wk	7	24,960	24,960
1 Bedroom apt	72	Rate per dwelling	240 L/dw/wk	240 L/dw/wk	7	17,280	17,280
2 Bedroom apt	54	Rate per dwelling	240 L/dw/wk	240 L/dw/wk	7	12,960	12,960
3 Bedroom apt	18	Rate per dwelling	240 L/dw/wk	240 L/dw/wk	7	4,320	4,320
Commercial	2,126 m^2	Office	10 L/100m^2/d	20 L/100m^2/d	5	1,125	2,175
Retail	58 m^2	Food & Drink (<150 m^2)	300 L/100m^2/d	200 L/100m^2/d	7	1225	840
Totals	-	-	-	-	-	**61,820**	**62,510**

It is estimated that 61,820 litres of general waste and 62,510 litres of recycling would be generated by the Brunswick Tower per week.

Table 11 Waste Generation Estimates – Water Street Tower

Space or room	Number of dwellings / GFA	Rate category (BCC)	L/dwelling/day or L/100m2/day		Number of days operation	Total per Week (L)	
			Garbage	Recycling		Garbage	Recycling
Studio apt	0	Rate per dwelling	240 L/dw/wk	240 L/dw/wk	-	-	-
1 Bedroom apt	115	Rate per dwelling	240 L/dw/wk	240 L/dw/wk	7	27,600	27,600
2 Bedroom apt	86	Rate per dwelling	240 L/dw/wk	240 L/dw/wk	7	20,640	20,640
3 Bedroom apt	28	Rate per dwelling	240 L/dw/wk	240 L/dw/wk	7	6,720	6,720
Commercial	552 m^2	Office	10 L/100m^2/d	20 L/100m^2/d	5	300	575
Totals	-	-	-	-	-	**55,260**	**55,535**

It is estimated that 55,260 litres of general waste and 55,535 litres of recycling would be generated by the Water Street Tower per week.

Other Waste Streams

Green waste bins are not proposed for this development. It is anticipated that any garden organic waste generated from the development will be very limited. Management of this would be by onsite 24-hour building management or landscaping contractors and waste would be taken offsite to a licensed facility for processing.

6.4 Waste Storage Areas Size

Section 4.4 of SC6.26 requires the development ensures residential and commercial bins are stored separately with separate access to each. Further recommendations on the waste storage areas and their sizing can be found in the Tables below.

The waste storage area for the Development must be large enough to adequately store all operational waste and recycling between the collections. Given the nature of the Development and its size and scope, a rear lift waste collection service is proposed. The most common rear lift bin that Council provides are 1,100 L capacity and this size of bins has been selected as most suitable for residential and commercial collection. Proposed bin dimensions are shown in **Table 12** and **Table 13** below.

Table 12 Waste Storage Room Requirements – Brunswick Street Tower

Stream	Bin Capacity (L)	Total waste volume (per week)	Collections (per week)	Number of bins (per lift)	Space required (bins only)	Storage room estimate (including manoeuvring)
Residential Garbage	1,100 L	19,840 L[1]	3	7	9.7 m^2	54 m^2
Residential Recycling	1,100 L	59,520 L	3	19	26.3 m^2	
Commercial Garbage	1,100 L	2,300 L[2]	2	1	1.5 m^2	7 m^2
Commercial Recycling	1,100 L	2,990 L	2	2	3.1 m^2	
					TOTAL	**61 m^2**
1-Assumes residential garbage is compacted at a rate of 3:1 using an in-chute compactor. 2-Assumes commercial waste includes both office & retail wastes General assumption that a manoeuvring factor of 1.5 is required to allow for movement of bins in storage room size estimate						

Table 13 Waste Storage Room Requirements – Water Street Tower

Stream	Bin Capacity (L)	Total waste volume (per week)	Collections (per week)	Number of bins (per lift)	Space required (bins only)	Storage room estimate (including manoeuvring)
Residential Garbage	1,100 L	18,320 L[1]	3	6	8.3 m^2	48 m^2
Residential Recycling	1,100 L	54,960 L	3	17	23.5 m^2	
Commercial Garbage	1,100 L	300 L	1	1	1.5 m^2	5 m^2
Commercial Recycling	1,100 L	570 L	1	1	1.5 m^2	
					TOTAL	**53 m^2**
1-Assumes residential garbage is compacted at a rate of 3:1 using an in-chute compactor. General assumption that a manoeuvring factor of 1.5 is required to allow for movement of bins in storage room size estimate						

6.4.1 Waste Storage Room Locations

The design drawings A-1205_R_PLAN – LOWER GROUND (dated 3rd December 2023) presents the current designed waste storage rooms. These are:

- Brunswick Street Tower – 31 m^2
- Water Street Tower – 89 m^2
- Total waste storage allowance in design – 120 m^2

Based on SLRs updated calculations it is estimated that the storage requirement for overall storage requirement based on the servicing configuration shown in Table 12 and Table 13 is estimated to be 114m^2 allowing for manoeuvring of bins, compared to the designed storage capacity of 120 m^2 and as such, there is sufficient storage designed in at present to satisfy Council requirements. Commercial and residential bins will be separated in the waste storage room to allow for separate collections if required, however given the significant volume of residential bins to be collected compared to commercial, amenity value may be

maintained by Councils waste contractors collecting the commercial waste bins during regular pickups (to avoid additional truck movements).

6.4.2 Waste Chute System and Internal Waste Movement

Dual chute system comprising of 1 x garbage and 1 x mixed recycling is proposed for both residential buildings. The 1,100L bins are proposed to be placed under the chutes for waste collection. Additionally, a compactor is proposed on a garbage chutes (achieving 3:1 compaction ratio). Mixed recycling is not proposed to be compacted. Collection of all waste streams is proposed to take place from the loading bay adjacent to the Water Street bin storage room. Bins will be moved from the Brunswick Street Tower to the Water Street Storage Room via site management staff to ensure sufficient storage is available in the Brunswick Street Tower storage room and for collections. It is expected that a bin tug will be deployed to safely move bins. There is sufficient room to store the tug in either storage room when not in use.

The waste chute locations within the waste storage rooms and bin servicing point are shown below in **Figure 3** and **Figure 4**. Detailed design of the waste storage rooms will be undertaken at a later stage.

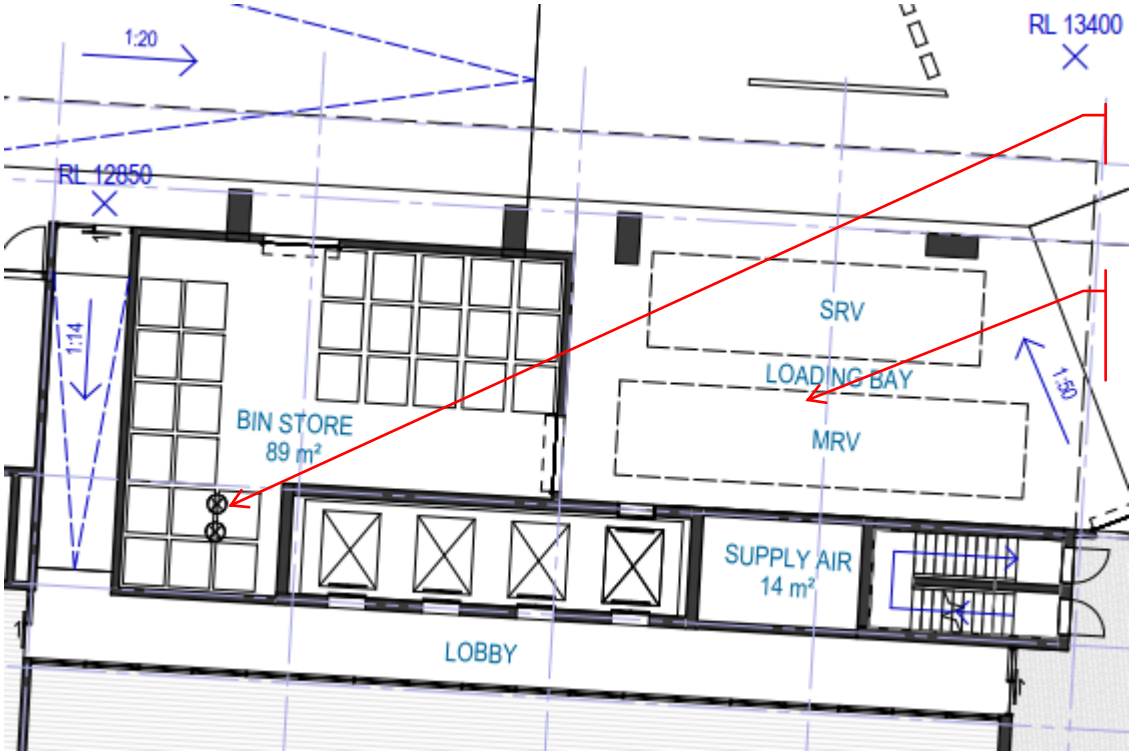


Figure 3 - Waste Chute Location – Water Street Tower

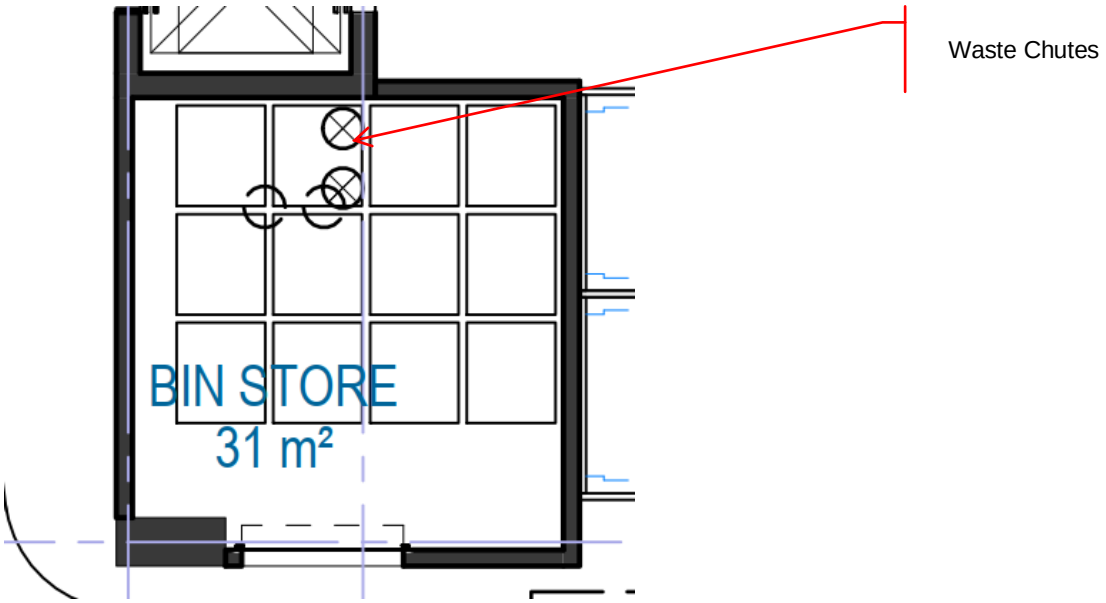


Figure 4 - Waste Chute Location - Brunswick Street Tower

6.4.3 Waste Servicing

Bins will be serviced by a Refuse Collection Vehicle (RCV) accessing the site via water street. Swept Path Analysis has been undertaken and is presented in the Traffic Impact Statement (TIA) prepared by SLR Consulting. The analysis in Figure SK01 of the TIA indicates that Council's rear lift RCV can enter and exist the development in a forward direction, and service via a specific collection area adjacent to Waste Storage Room under the Water Street Tower.

6.4.4 Waste Avoidance

Waste avoidance measures may include:

- Participating in take-back services to suppliers to reduce waste further along the supply chain
- Avoid printing where possible
- Purchasing consumables in bulk to avoid unnecessary packaging, and
- Presenting all waste reduction initiatives to residents

6.4.5 Recycling and Reuse

Recycling opportunities include:

- Separating recyclable materials such as plastic bottles, cans, paper and cardboard from the general waste stream
- Flatten cardboard to reduce number of bins required
- Adoption, participation in and promotion of the Queensland Container Refund Scheme
- Consider future opportunities for food waste separation in food preparation areas
- Development of 'buy recycled' purchasing policy.

6.5 Communication Strategies

Waste management initiatives and management measures should be clearly communicated. Benefits of providing this communication include:

- Improved satisfaction with services
- Increased ability and willingness to participate in recycling
- Improved amenity and safety
- Improved knowledge and awareness through standardisation of services
- Increased awareness or achievement of environmental goals and targets
- Reduced contamination of recyclables stream
- Increased recovery of recyclables and organics material, if implemented, and
- Greater contribution to targets for waste reduction and resource recovery, the environment and heritage conservation.

To realise the above benefits, the following communication strategies should be considered:

- Use consistent signage and colour coding throughout
- Provide directional signage to show location of and routes to waste storage area
- General waste and co-mingled recycling bins should be clearly labelled and colour-coded to ensure no cross contamination, where applicable
- Repair signs and labels promptly to avoid breakdown of communications.

6.6 Signage

The waste storage and collection areas should be provided with appropriate signage. These signs should clearly identify waste management procedures and should be distributed around the Development.

Signs which clearly identify waste management procedures and provisions to staff and visitors should be distributed around the Development. Key signage considerations are:

- Clear and correct labelling on all waste and recycling bins, indicating the correct type or types of waste that can be placed into a given bin.
- Signposts and directions to location of waste storage areas
- Clear signage in all waste storage areas to instruct users how to correctly separate waste and recycling.

6.7 Monitoring and Reporting

Monitoring is recommended to ensure waste and recycling management arrangements and provisions for the Development are functional, practical and are maintained to the standard outlined in this development.

Quantities of waste and recycling associated with disposal of waste and recycling, including dockets, receipts and other physical records should be recorded. This is to allow review of the waste management arrangements and provisions at the site over time.

Any deficiencies identified in the waste management system, including, but not limited to, unexpected waste quantities, is to be rectified as soon as it is practical. If this waste management plan no longer sufficiently meets the needs of the Development, review and updates to maintain suitability must be undertaken.

6.8 Roles and Responsibilities

It is the responsibility of the Building Manager, or equivalent role, to implement this WMP and a responsibility of all building tenants and staff to follow the waste management procedures set out by the WMP. SLR recommends that all subcontractors enlisted by the Client are to have roles and responsibilities identified and the Development's waste management system clearly explained. A summary of recommended roles and responsibilities are provided in Table 14.

Table 14 Operational waste management responsibility allocation

Responsible Person	General Tasks
Management	Ensure the WMP is implemented throughout the life of the operation.
	Update the WMP on a regular basis (e.g. annually) to ensure the Plan remains applicable.
	Undertake liaison and management of contracted waste collections.
	Organise internal waste audits on a regular basis.
	Manage any complaints and non-compliances reported through waste audits etc.
	Perform inspections of all waste storage areas and waste management equipment on a regular basis.
	Organise cleaning and maintenance requirements for waste management equipment.
	Monitor bins to ensure no overfilling occurs.
	Ensure effective signage, communication and education is provided to alert visitors, employees and cleaners about the provisions of this SWMMP and waste management equipment use requirements.
	Monitor and maintain signage to ensure it remains clean, clear and applicable.
	Ensure waste and recycling storage rooms are kept tidy.
	Ensure that regular cleaning and daily transfer of bins is being undertaken by the cleaners
	Ultimately responsible for the management of all waste management equipment, cleaning requirements, waste transfer and collection arrangements.
Cleaners and Staff	Removal of general waste, recyclables, cardboard waste and hazardous waste from floor areas for transfer to centralised waste and recycling collection rooms daily or as required.
	Cleaning of all bins and waste and recycling rooms on a weekly basis or as required.
	Compliance with the provisions of this WMP.

Appendix A Design Drawings

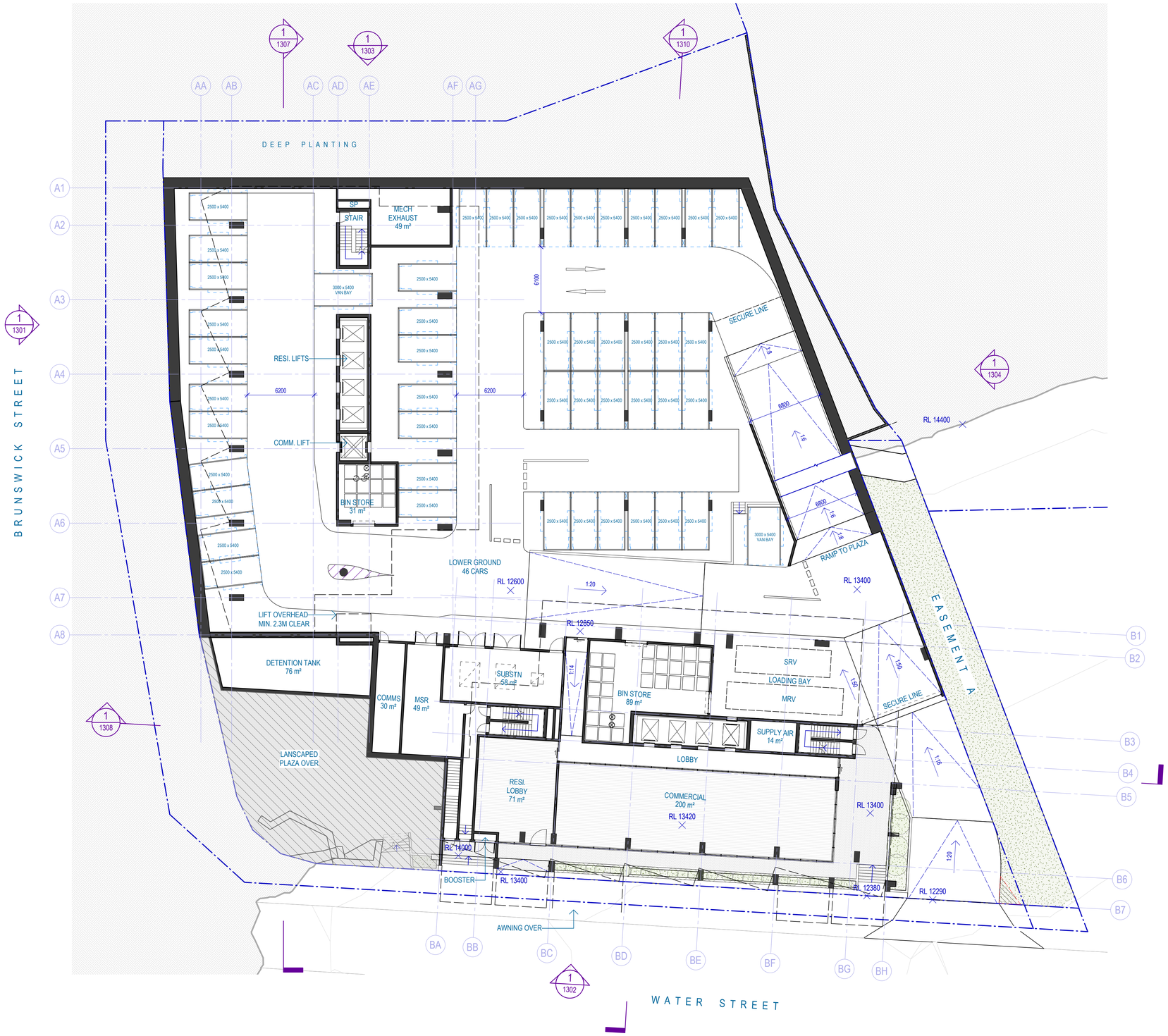
Waste Management Plan

Mixed-use Tower Development, 332-334 Water Street, Fortitude Valley

Pelicano Living Pty Ltd

SLR Project No.: 620.V31023.00000

6 December 2023



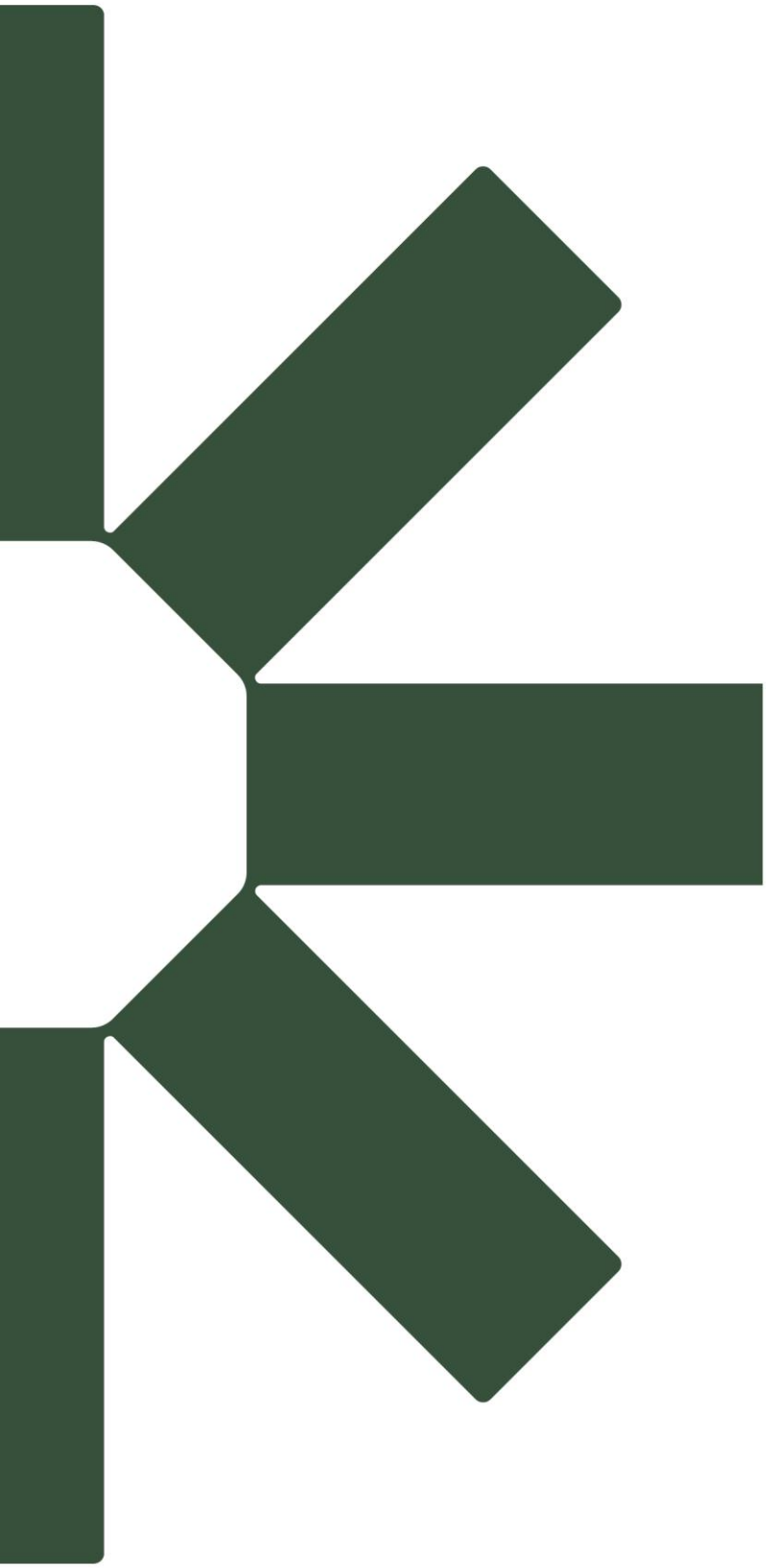
FOR INFORMATION

W—B WOODS BAGOT Pellicano

Project
332-334 WATER STREET

Sheet title
PLAN - LOWER GROUND

Project no. **150536**
Scale **1 : 200**
Sheet size **A1**
Sheet no. **A- 1205**
Revision **S**
Date **03/12/23**



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