



Oakdale East Industrial Estate – Project Silverback – Building 2A and Building 2B and Lot 2C (SSDA- 120888992)

Waste Management Plan

Goodman Property Services (Aust) Pty Ltd

The Hayesbery
1-11 Hayes Road
Rosebery NSW 2018

Prepared by:

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Basis of Report

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1.0 Introduction

1.1 Overview

This waste management plan (WMP) has been prepared by SLR Consulting Australia (SLR) to address the following development applications:

- **Concept Plan Amendments (Mod 6):** Amendments to State Significant Development Application 37486043 (as modified) in accordance with Section 4.24 of the *Environmental Planning and Assessment Act 1979*
- **Detailed Application (Proposed Works):** State Significant Development Application No. 120888992 based on industry-specific secretary's environmental assessment requirements (SEARs) received dated 8 May 2026.

The proposed development is being undertaken by Goodman Property Services (Aust) Pty Ltd (Applicant) on behalf of BGMG 14 Pty Ltd (ACN 661 888 884) as trustee of BGMG 1 Oakdale East Trust No.2 (Owner). The development is located in Lot 109 in DP 1293112, formally referred to as 2-10 Old Wallgrove Road, Horsley Park (the Site).

The following further outlines the respective works the development applications' seek approval for.

Concept Plan approval Amendments - State Significant Development Application (37486043) (Mod 6)

As part of the proposed works under SSD number 120888992, the following amendments are proposed to the concept approval and Stage 1 infrastructure works approved under SSDA-37486043:

- Amendment to approved Masterplan and Subdivision plan to accommodate revised Precinct 2-5 layout which will consolidate Precincts 2, 4 and 5, resulting in a total of three precincts, Precinct 1-3.
- Amendment of Stage 2 infrastructure scope to accommodate revised and consolidated Precinct 2-5 layout.
- Amendment of development controls, including those prescribed under Condition A9 and A10 of the consent, specifically:
 - o Building Height
 - o Maximum GLA
- Increase maximum permissible vehicle from a 30 m super B-double to a 36.5 m B-triple (Condition D14).

This application, including the amendments to the concept approval under SSD 37486043, seeks to facilitate the development of Building 2A, 2B and Lot 2C and associated internal infrastructure changes.

Detailed Application - State Significant Development Application [120888992]

The SSDA seeks approval for the construction, fit-out and operation of two warehouse buildings and associated internal site infrastructure works to accommodate the proposed building layouts. Specifically, this includes:

- **Warehouses and Distribution Building – Building 2A**



- o Operation 24 hours per day, seven days per week for warehouse and distribution use
- o Construction, fit-out (warehouse racking and office fit-out) and use of an approximately 18,110 m² warehouse with ancillary office GLA. Proposed ridge height of 14.6 m, excluding rooftop plant and solar.
- o Includes hard stand, dock offices, loading bays, landscaping, electric vehicle charging, solar panels and signage.
- **Warehouses and Distribution Building – Building 2B and Lot 2C**
 - o Operation 24 hours per day, seven days per week for warehouse and distribution use as an automated mail and parcel processing and sorting facility.
 - o Construction, fit-out (office and warehouse) and operation of approximately 142,157 m² of warehouse and office GLA across two levels spanning a proposed ridge height of 25.0 m, excluding rooftop plant, roof access stairs and solar.
 - Warehouse fit-out includes automation and sortation equipment alone with associated mezzanine structures.
 - o Building 2B will include hardstand, heavy rigid parking, guardhouses, dock offices, loading bays, landscaping, electric vehicle charging, goods collection lockers, solar panels six lithium-ion battery energy storage systems external to the main warehouse building and fleet workshop, weighbridges, fleet workshop, dock temperature control with external units, emergency generators, refuelling bay, truck wash and signage.
 - o Dangerous goods are proposed to be stored at the site, which are below the threshold quantities under Chapter 3 of the State Environmental Planning Policy (Resilience and Hazard) 2021.
 - o Ground improvements to Warehouse 2B building footprint, for example, piling, including a 200 mm thick layer of cement treated fine crushed rock placed under the entire warehouse footprint.
- **Internal Estate Infrastructure**
 - o Bulk Earthworks to Precinct 2, formally Precinct 2, 4 and 5
 - Approximately 550,000 m³ fill import required as either virgin excavated natural material, excavated natural material or Resource Recovery Order under S 286A of the *Protection of the Environment Operations Act 1997*.
 - Import proposed to be 24 hours per day, seven days per week during the fill importation program
 - Export any unsuitable material, for example, topsoil and clay.
 - o Retaining walls, including import of engineered backfill
 - o Stormwater Basin D, including fit-out
 - o Construction and associated easement to drain of Stage 1 stormwater discharge line through Building 2B to Basin C
 - o Stage 1 road and servicing amendments to reflect revised Precinct 2, 4 and 5 building layout
 - o Noise barriers



- o Lead-in services including additional 11 kv feeder via the extension of HV feeders from existing Endeavour Energy switching stations within Roberts Road and Capicure Drive.
- **Other**
 - o Expansion and on-going management of DA 347.1/2021 Containment Cell
 - o Subdivision of Precinct 2, 4 and 5 to suit revised precinct plan and ultimate lot layout.

Related Applications and Activities

Fairfield City Council Development Application DA 347.1/2021 (as modified) – Rehabilitation Works

A Fairfield City Council development application, DA 347.1/2021 (as modified), has previously been approved over the site facilitating bulk earthworks and rehabilitation, including an initial containment cell, works at the Site to provide relative levels suitable for future industrial development.

These levels are:

- Precinct 2 (western portion): BE 77.5
- Precinct 2 (eastern portion): BE 71.5
- Precinct 3: BE 77.0
- Precinct 4: BE 70.0

The proposed SSDA-120888992 assumes these levels and works in respect of assessment of environmental impacts previously assessed in accordance with Clause 4.63 (a) *Environmental Planning and Assessment Act 1979*. Further re-assessment is therefore not required.

DA 347.1/2021 assessed the environmental impacts associated with the required rehabilitation to achieve the above bulk earthworks levels.

Notwithstanding, DA 347.1/2021 (as modified) is currently unable to be fulfilled as the consent approves a shortfall of:

- Fill importation required to achieve the above FCC approved rehabilitation levels
- Contamination cell size required to fulfill rehabilitation obligations under the Fairfield City Council consent and associated Rehabilitation Action Plan.

SSDA-120888992 assess and seeks approval to address these shortfalls as part of the environmental impact assessment.

The proposed development area, outlined in red, is shown in Figure 1 below.





Figure 1 Proposed development location

The proposed design for Building 2A is shown in Figure 2 below and Building 2B and Lot C shown in Figure 3 below.

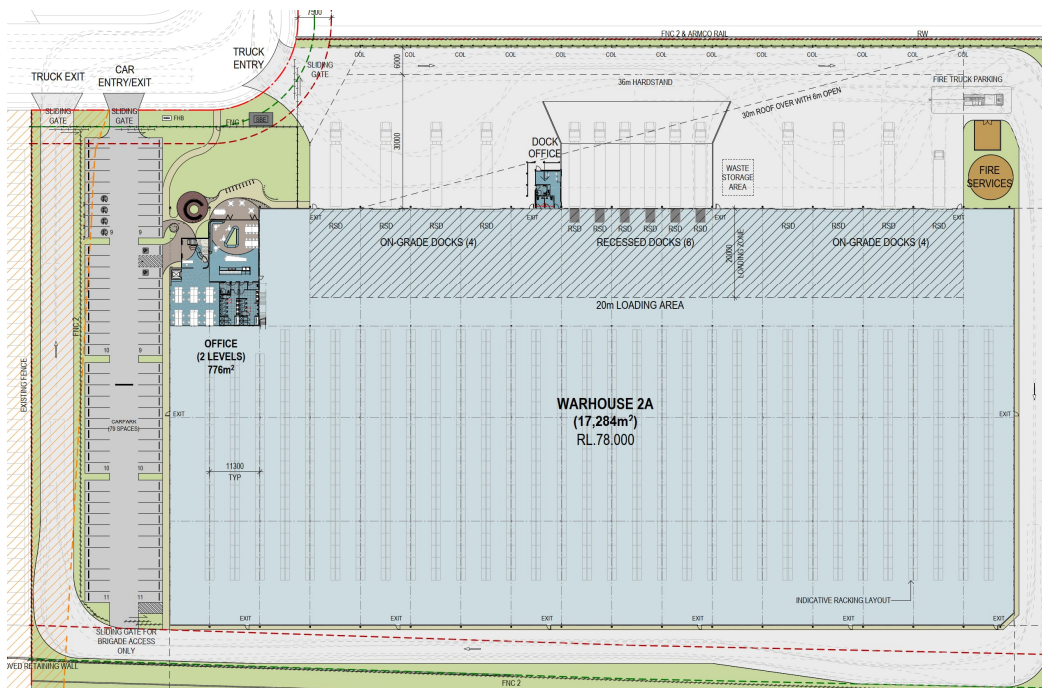


Figure 2 Proposed Building 2A development





1.2 Secretary's Environmental Assessment Requirements

The Secretary's Environmental Assessment Requirements (SEARs) for SSDA-120888992 are shown in Table 1 below.

Table 1 SEARs

Description of requirement	WMP section reference
17. Waste Management Identify, quantify and classify the likely waste streams to be generated during construction and operation	- For construction waste please refer to Section 5.2 Waste Streams and Classifications and Section 5.3 Construction Waste Quantities - For operational waste please refer to Section 6.2 Waste Streams and Classifications and Section 6.3 Waste Quantities
Provide the measures to be implemented to manage, reuse, recycle and safely dispose of waste in accordance with any council waste management requirements	- For construction waste please refer to Section 5.5 Reuse, Recycling and Disposal and Section 5.6 Waste Storage and Servicing - For operational waste please refer to Table 8 Potential operational waste types, classifications and management methods and Section 6.8 Waste Avoidance, Reuse and Recycling - Council's requirements and shown in Section 3.1 Fairfield Citywide Development Control Plan 2013 Amendment 22
Identify appropriately sited waste storage areas, collection access paths/roads, and appropriate servicing arrangements for the site	- For construction waste please refer to Section 5.6 Waste Storage and Servicing - For operational waste please refer to Section 6.4 Waste Storage Area Size 6.5 Waste Storage Locations 6.7 Waste Vehicle Access
If buildings are proposed to be demolished or altered, provide a hazardous materials survey	The site is cleared and there are no buildings or structures to be demolished. If a hazardous materials survey has been carried out it will be covered in a separate document.

As specified in the SEARs, this waste management plan (WMP) is guided by the Fairfield Citywide Development Control Plan 2013 and Fairfield Council's Waste Management Plan - Demolition, Construction and Ongoing Management as well as good and safe practice principles for waste management.

The table shows that the development has been assessed against the SEARs and is compliant.

1.3 Objectives

The principal objective of this WMP is to identify all potential wastes likely to be generated at the Development during the 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 the SEARs and guided by other agency and regulatory requirements.

The specific objectives of this WMP are:

- To encourage the minimisation of waste production and maximisation of resource recovery.
- To assist in ensuring that any environmental impacts during the construction and operational stages of the Development comply with the SEARs and guided by Council's waste requirements.

1.4 Review of WMP

This WMP 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.
- To take advantage of new technologies, innovations and methodologies for waste or recycling management.

Copies of the original WMP and its future versions should be retained by the Applicant. Changes made to the WMP, as well as the reasons for the changes made, should be documented by the Applicant as part of the review process.

2.0 Better Practice for Waste Management and Recycling

2.1 Waste Management Hierarchy

This WMP has been prepared in line with the waste management hierarchy shown in Figure 4. The hierarchy summarises the objectives of the *Waste Avoidance and Resource Recovery Act 2001*.

The waste management hierarchy comprises the following principles, from most to least preferable:

- Waste **avoidance**, prevention or reduction of waste generation. Achievable through better design and purchasing choices.
- Waste **reuse**, reuse without substantially changing the form of the waste.
- Waste **recycling**, treatment of waste that is no longer usable in its current form to produce new products.
- Energy **recovery**, processing of residual waste materials to recover energy.
- Waste **treatment**, reduce potential environmental, health and safety risks.
- Waste **disposal**, in a manner that causes the least harm to the natural environment.

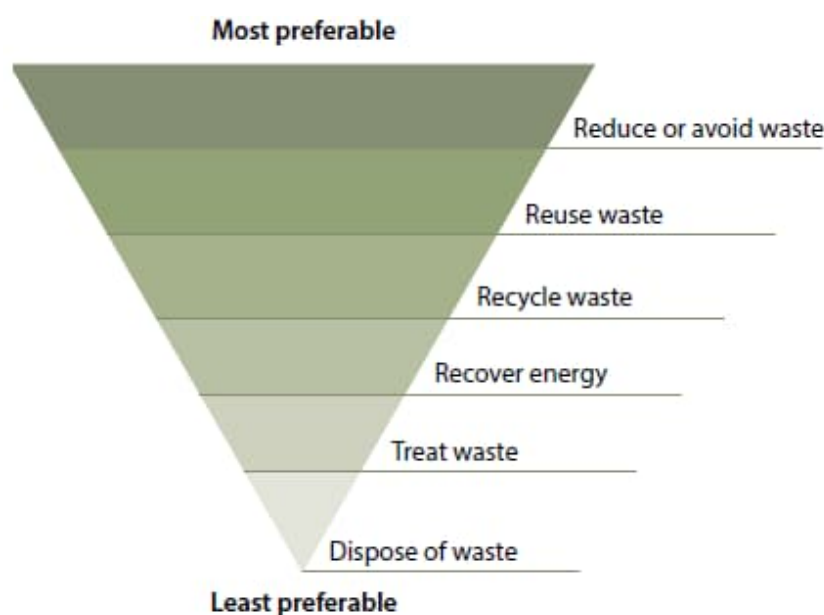


Figure 4 Waste Management Hierarchy



2.2 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.

3.0 Waste Legislation and Guidance

While the WMP will directly address the SEARs, the Fairfield Citywide Development Control Plan 2013 and Fairfield Council's Waste Management Plan - Demolition, Construction and Ongoing Management have been used as guides.

3.1 Fairfield Citywide Development Control Plan 2013 Amendment 22

Chapter 9 – Industrial Development

Objectives

a) To encourage waste minimisation, source separation, reuse and recycling.

Controls

a) Garbage storage areas must:

- a. Be designed so that the floors and walls can be washed on a regular basis and the wastewater collected, treated and disposed of to the sewer;*
- b. Include separation facilities for waste to be divided into separate waste streams in order to recycle materials;*
- c. Be located away from adjoining residential dwellings; and*
- d. Be located so as to not cause any negative impacts, in terms of visual appearance, noise or smell, to adjoining properties, or to the street.*

b) Waste collection noise minimisation - The collection of waste materials from the site must be in accordance with the NSW Environment Protection Authority, Industrial Noise Policy (2000).

c) Liquid waste storage areas - shall be covered and bunded to prevent external spillage.

9.7.3 Access arrangements

b) Storage areas should be confined within the building. Opportunities to utilise the rear of the site may exist for storage areas provided it does not conflict with other operational components of the development such as truck parking bays, waste disposal points, and car parking does not detract from the amenity of adjoining properties screened from the street and adjoining properties.



Chapter 10 – Miscellaneous Development

10.0 Context and Objectives

This Chapter applies primarily to a variety of development types not otherwise covered by other Chapters of this DCP. The major focus of this chapter is non-residential development in residential zones.

10.1.4 Management of Waste

Overview

Efficient management of waste is crucial for minimising the overall environmental impacts of waste, in line with the principles of Ecologically Sustainable Development.

Objective

a) To provide for design and location standards, which assist waste and recycling collection and management services, offered by Council and private providers.

Controls

a) Times when any Waste/Garbage removal will need to be carried out is between 6.00am and 6.00pm, Monday to Friday, preferably within the same hour of service loading activities.

10.8.2 Industrial Zones

A neighbourhood shop can serve the daily needs of the local industrial workforce. This section applies to neighbourhood shops in the E4 General Industrial zone.

Controls

f) Waste management - Waste disposal facilities shall be provided for the neighbourhood shop.

3.2 Other Legislation and Guidance

The waste legislation and guidance outlined in Table 2 below should be referred to during the operation of the Development.

Table 2 Waste legislation and guidance relevant to this report

Legislation and Guidance	Objectives
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 2019	The National Construction Code 2019 sets the minimum requirements for the design, construction and performance of buildings throughout Australia.
NSW EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012	These better practice guidelines present information on waste minimisation and resource recovery as well as information on commonly used waste management provisions. The guidelines also provide benchmarks for assessing waste production rates in Australia.
NSW Waste and Sustainable Materials Strategy 2041: Stage 1 – 2021-2027	Replacing the <i>NSW Waste Avoidance and Resource Recovery Strategy (2014-21)</i> , the NSW Waste and Sustainable Materials Strategy 2041 focuses on the transition of NSW to a circular economy. The strategy focuses on minimising what is thrown away, and to use and reuse resources more efficiently, making them as productive as possible. The strategy identifies the need to



Legislation and Guidance	Objectives
	identify infrastructure needs, the mandating of separation of some organic waste streams, and incentivising biogas generation from waste materials.
NSW EPA Resource Recovery Orders and Resource Recovery Exemptions	The NSW EPA has issued a number of resource recovery orders and resource recovery exemptions under the POEO (Waste) Regulation 2014 for a range of wastes that may be recovered for beneficial re-use. These wastes typically include those from demolition and construction works, as well as ongoing wastes such as food waste. - Resource recovery orders present conditions which generators and processors of waste must meet to supply the waste material for beneficial re-use. - Resource recovery exemptions contain the conditions which consumers must meet to use waste for beneficial re-use.
NSW EPA's Waste Classification Guidelines 2014	The NSW EPA Waste Classification Guidelines assists waste generators to effectively manage, treat and dispose of waste to ensure the environmental and human health risks associated with waste are managed appropriately and in accordance with the <i>POEO Act 1997</i> and its associated regulations.
<i>Protection of the Environment Operations Act (POEO) 1997 and Amendment Act 2011</i>	The <i>POEO Act 1997</i> and <i>POEO Amendment Act 2011</i> are administered by the NSW EPA to enable the NSW Government to establish instruments for setting environmental standards, goals, protocols and guidelines. They outline the regulatory requirements for lawful disposal of wastes generated during the demolition, construction and operational phases of a development, as well as the system for licencing waste transport and disposal.
The Work Health and Safety Regulation 2017	The Work Health and Safety Regulation 2017 provides detailed actions and guidance associated with the topics discussed in the Work Health and Safety Act 2011. The primary aim of the regulation 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 regulations. 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.
<i>Waste Avoidance and Resource Recovery Act 2001</i>	The <i>Waste Avoidance and Resource Recovery Act 2001</i> aims to promote waste avoidance and resource recovery and repeals the <i>Waste Minimisation and Management Act 1995</i>. Specific objectives of the <i>Waste Avoidance and Resource Recovery Act 2001</i> include: - encouraging efficient use of resources - minimising the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste - ensuring industry and the community share responsibility in reducing/dealing with waste, and - efficiently funding of waste and resource management planning, programs and service delivery. As of 2016, the addition to the Act of Part 5 defines the legislative framework for the 'Return and Earn Container Deposit Scheme'



Legislation and Guidance	Objectives
	whereby selected beverage containers can be returned to State Government authorities for a monetary refund.

4.0 Demolition Waste

The site is cleared and there are no buildings or structures to be demolished.

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 NSW Waste and Sustainable Materials Strategy 2041 (DPIE, 2021) sets a target of 80% average recovery rate from all waste streams by 2030. Analysis by DPIE (2023-2024) indicates that construction and demolition waste recovery rates in 2023-2024 were 78%.

It is anticipated that the waste minimisation measures in the following sections will assist the Development to meet these targets. Waste reporting and audits can be used to determine the actual percentage of wastes that are being, or have been, recycled during the site preparation and construction stages of The Development.

5.2 Waste Streams and Classifications

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

- Construction waste
- Plant maintenance waste
- Packaging waste
- Work compound waste from on-site employees.

A summary of likely waste types generated from site preparation and construction activities, along with their waste classifications and proposed management methods, is provided in Table 3.

For further information on how to classify a waste type refer to the NSW EPA (2014) *Waste Classification Guidelines*¹. Further information on managing site preparation and construction waste is available from the NSW EPA website².

¹ Available online from <https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/waste-classification-guidelines>

² <http://www.epa.nsw.gov.au/your-environment/waste/industrial-waste/construction-demolition>



Table 3 Potential construction waste types, classifications and their management methods

Waste Types	NSW EPA Waste Classification	Proposed Management Method
Construction		
Sediment fencing, geotextile materials	General solid waste (non-putrescible)	Reuse at other sites where possible or disposal to landfill
Concrete	General solid waste (non-putrescible)	Off-site recycling for filling, levelling or road base
Bricks and pavers	General solid waste (non-putrescible)	Cleaned for reuse as footings, broken bricks for internal walls, crushed for landscaping or driveway use, off-site recycling
Gyprock or plasterboard	General solid waste (non-putrescible)	Off-site recycling or returned to supplier
Sand or soil	General solid waste (non-putrescible)	Off-site recycling
Conduits and pipes	General solid waste (non-putrescible)	Off-site recycling
Timber – treated	General solid waste (non-putrescible)	Reused for formwork, bridging, blocking, propping or second-hand supplier
Timber - untreated		Off-site recycling, chip for landscaping, sell for firewood, reused for floorboards, fencing, furniture, mulched second-hand supplier and remainder to landscape supplies.
Insulation material	General solid waste (non-putrescible)	Off-site disposal
Glass	General solid waste (non-putrescible)	Off-site recycling, glazing or aggregate for concrete production
Paint	Liquid waste	Off-site recycling, Paintback collection ³ or disposal
Synthetic rubber or carpet underlay	General solid waste (non-putrescible)	Off-site recycling, reprocessed for other uses
Ceramics including tiles	General solid waste (non-putrescible)	Off-site recycling
Carpet	General solid waste (non-putrescible)	Off-site recycling, disposal or reuse
Plant Maintenance		
Empty oil and other drums or containers, such as fuel, chemicals, paints, spill clean ups	Hazardous waste: Containers were previously used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility.

³ Available online from <https://www.paintback.com.au/>



Waste Types	NSW EPA Waste Classification	Proposed Management Method
	been removed by washing or vacuuming. General solid waste (non-putrescible): Containers have been cleaned by washing or vacuuming.	
Air filters and rags	General solid waste (non-putrescible)	Off-site disposal
Oil filters	Hazardous waste	Off-site recycling
Batteries	Hazardous waste	Off-site recycling, Contact the Australian Battery Recycling Initiative ⁴ for more information
Packaging		
Packaging materials, including wood, plastic, including stretch wrap or LDPE, cardboard and metals	General solid waste (non-putrescible)	Off-site recycling
Wooden or plastic crates and pallets	General solid waste (non-putrescible)	Reused for similar projects, returned to suppliers, or off-site recycling. Contact <i>Business Recycling</i> for more information ⁵
Work Compound and Associated Offices		
Food Waste	General solid (putrescible) waste	Dispose to landfill with general garbage
Recyclable beverage containers, such as glass and plastic bottles, aluminium cans and steel cans	General solid waste (non-putrescible)	Recycling at off-site licensed facility or at NSW container deposit scheme 'Return and Earn' facility ⁶
Clean paper and cardboard	General solid waste (non-putrescible)	Paper and cardboard recycling at off-site licensed facility
General domestic waste generated by workers such as soiled paper and cardboard, food and polystyrene	General solid waste (non-putrescible) mixed with putrescible waste	Disposal at landfill

Waste generated during the construction phase could be sent to one of a number of licensed waste management facilities located in Western Sydney. Examples of potential destinations are listed in Table 4 below. The precise destination will be a matter for the waste or construction contractors.

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

⁵ Available online from <https://businessrecycling.com.au/>

⁶ Available online from <http://returnandearn.org.au/>



Table 4 Resource and waste management facilities

Facility Name	Resource Type
Eastern Creek Resource Recovery Park	General solid waste (putrescible and non-putrescible) and organics, Garden waste, Sand and timber (VENM)
Kemps Creek Resource Recovery Park	General solid waste (putrescible), White goods and scrap metal
Recycling and recovery facilities licenced to accept construction waste	
Alexandria Recycling Centre	C&D waste including asphalt, vegetation, brick, concrete, timber/wood waste, insulation
Banksmeadow Recycling Centre	C&D waste including concrete, ceramics, bricks, plasterboard, sand, soil
Ryde Resource Recovery Centre	C&D waste including concrete, timber, pallets, bricks, sand and soil
Lucas Heights Resource Recovery Park	C&D waste, e-waste, recyclables including food and beverage packaging, furniture and fittings, garden organics, scrap metal,

5.3 Construction Waste Quantities

The Liverpool DCP provides no waste generation rates for construction activities. Instead the 'Office' waste generation rates from The Hills Development Control Plan (Hills DCP) 2012 have been adopted for estimating the type and quantities of waste generated from construction of the Development. We have also referred to *Light Duty Asphalt Pavements – Design, Specification and Construction 2002* published by the Australian Asphalt Pavement Association in calculating car park waste construction quantities.

The construction waste generation rates are shown in Table 5.

Table 5 Construction waste generation rates

Rate Type	Floor Area (m ²)	Waste types and quantities (m ³)								
		Timber	Asphalt	Concrete	Granular Base	Bricks	Plaster board	Sand / Soil	Metal	Other
Office	1,000	5.1	0	18.8	0	8.5	8.6	8.8	2.75	5
Factory	1,000	0.25	0	2.1	0	1.65	0.45	4.8	0.6	0.5
Carpark	1,000	0	0.3	0.225	1.25	0	0	0	0	0
Hardstand	1,000	0	0	2.1	0	0	0	4.8	0.6	0.5

These waste generation rates are used to estimate the waste generated from the construction of the Development. The anticipated construction waste quantities for the Development are shown in Table 6 below and are based on the areas shown in the following drawings:

- 26180_Lot_2A_Drawings_260521.pdf
- 26180_DA04_A_LOT 2B - OVERALL SITE PLAN.pdf.

The construction waste quantities anticipated are shown in Table 6 below.



Table 6 Estimated types and quantities of construction waste

Lot	Area	GFA (m ²)	Waste types and quantities (m3)								
			Timber	Asphalt	Concrete	Granular Base	Bricks	Gyprock	Sand / Soil	Metal	Other
2A	Warehouse	14,267	36	-	300	-	235	64	685	86	71
	Office	781	40	-	147	-	66	67	69	21	39
	Hardstand	9,277	-	-	195	-	-	-	445	56	46
	Carparks	2,424	-	7.3	5.5	30	-	-	-	-	-
2B	Warehouse	120,695	302	-	2,535	-	1,991	543	5,793	724	603
	Office	5,577	284	-	1,048	-	474	480	491	153	279
	Hardstand	154,317	-	-	3,241	-	-	-	7,407	926	772
	Carparks	16,289	-	49	37	204	-	-	-	-	-
	Total	323,627	662	56	7,507	234	2,767	1,154	14,890	1,966	1,811

Assuming 'Other' will be landfilled and that the other materials will be substantially recovered, the data shows that about 94% of the construction waste stream is recoverable. A target of 80% recovery could be achieved.

5.4 Waste Avoidance

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

- Develop a purchasing policy based on the approximate quantities of materials to be used so that the correct quantities are purchased.
- Arrange for delivery of materials on an 'as needed' basis 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.
- 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.
- Minimise site disturbance and unnecessary excavation.
- Incorporate existing trees and shrubs into the landscape plan.
- Grouping wet areas together to minimise the amount of pipe work required.
- Design the Development 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:
 - o Returning packaging to suppliers where practicable to reduce waste further along the supply chain.
 - o Purchasing in bulk.
 - o Requesting cardboard or metal drums rather than plastics.



- o Requesting metal straps rather than shrink wrap.
- o Using returnable packaging such as pallets and reels.
- Use prefabricated materials.
- Select materials for Development works with low embodied energy properties or materials that have been salvaged or recycled for the construction of the Development 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 waste, including options for reuse and recycling where applicable and practicable, will be conducted. Only wastes that cannot be cost effectively reused or recycled are to be sent to landfill or appropriate disposal facilities.

Refer to Table 3 for an outline of the proposed reuse, recycling and disposal methods for potential site preparation and construction waste streams generated by the Development.

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

- Ensure management of the site includes minimising waste generation, requiring the appropriate storage and timely collection of waste materials, and maximising re-use or recycling of materials.
- Store wastes 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 Development's life.
- Determine opportunities for the use of prefabricated components and recycled materials.
- Strip topsoil from areas designated for excavation and store it on site for reuse.
- Reuse excavation material will be on-site where possible.
- Re-use formwork where appropriate.
- Retain roofing material cut-offs for re-use or recycling.
- Retain used crates for storage purposes unless damaged.
- Recycle cardboard, glass and metal wastes.



- 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 waste recycling facility or an appropriately licenced landfill.
- Dispose of all asbestos and/or hazardous wastes in accordance with SafeWork NSW and NSW EPA requirements.
- Deliver batteries and fluorescent 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

Waste materials produced from site preparation and construction activities should be separated at the source and stored separately on-site. It is anticipated that the Development will provide enough space on-site for separate storage, for example, separate skip bins or appropriately managed stockpiles, of the following waste types:

- Bricks, concrete and scrap metal.
- Metal and steel, in a condition suitable for recycling at metal recycling facilities.
- Timber
- Glass
- Hardstand rubble.
- Uncontaminated excavation spoil, if present.
- Contaminated excavation spoil, if present.
- Hazardous waste, if present.
- Paper and cardboard.
- General co-mingled recycling waste.
- Non-recyclable general waste.

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.

All bins will be fitted with close fitting lids to prevent access by birds and animals.

5.6.2 Waste Storage Areas

Waste storage areas 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.

Areas designated for waste storage should:



- 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.
- Allow enough space for the storage of garden waste and other waste materials on-site.
- Employ adequate environmental management controls to prevent off-site migration of waste materials and contamination from the waste. For example, consideration of slope, drainage, proximity relative to waterways, stormwater outlets and vegetation.
- Consider visual amenity, safety, accessibility and convenience in their selection.
- Not present hazards to human health or the environment.

5.6.3 Waste Servicing and Record Keeping

The Site Manager or equivalent role is to:

- Arrange for suitable waste collection contractors to remove any construction waste from site.
- Ensure waste bins are not filled beyond recommended filling levels.
- Ensure that all bins and loads of waste materials leaving site are covered.
- Maintain waste disposal documentation detailing, at a minimum:
 - o Descriptions and estimated amounts of all waste materials removed from site.
 - o Details of the waste and recycling collection contractors and facilities receiving the waste and recyclables.
 - o 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.
 - o Waste classification documentation for materials disposed to off-site recycling or landfill facilities.
- Ensure lawful waste disposal records are readily accessible for inspection by regulatory authorities such as Council, SafeWork NSW or NSW EPA, and
- Remove waste during approved hours.

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

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 wastes.
- Waste related signage.
- The implications of poor waste management practices.
- 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.

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.

Signs approved by the NSW EPA for labelling of waste materials are available online and should be used where applicable. A selection of signs prepared by NSW EPA is provided in Figure 5 below.



Figure 5 Examples of NSW EPA labels for waste skips and bins

5.9 Monitoring and Reporting

The following monitoring practices are to be undertaken to improve site preparation and construction waste management and to obtain accurate waste generation figures:

- Conduct waste audits of current projects where feasible.
- Note waste generated and disposal methods.
- Look at past waste disposal receipts.
- Record this information to track waste avoidance, reuse and recycling performance and to help in waste estimations for future Resource Recovery Management Plans.

Records of waste quantities recycled, reused or contractor removed should be maintained. This can include dockets or receipts verifying recycling and disposal in accordance with this WMP. This evidence should also be presented to regulatory bodies when required.



Daily visual inspections of waste storage areas will be undertaken by site personnel and inspection checklists and logs recorded for reporting to the Site Manager on a weekly basis or as required. These inspections will be used to identify and rectify any resource and waste management issues.

Waste audits are to be carried out by the Building Contractor to gauge the effectiveness and efficiency of waste segregation procedures and recycling and reuse initiatives. Where audits show that the above procedures are not carried out effectively, additional staff training will be undertaken and signage re-examined.

5.10 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 7.

Table 7 Suggested site preparation and construction waste management roles and responsibilities

Responsible Person	General Tasks
Construction Site Manager or Environmental Management Representative	Ensuring plant and equipment are well maintained.
	Ordering only the required amounts 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.
Environmental Manager or Environmental Management Representative	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 wastes.
	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 project induction and contract engagement process.



6.0 Operational Waste

6.1 Targets for Resource Recovery

Targets for new development are expected to contribute to state-specific targets. The NSW Waste and Sustainable Materials Strategy 2041 (DPIE, 2021) sets a target of 80% average recovery rate from all waste streams by 2030. Analysis by DPIE (2023) indicates that the commercial and industrial waste recovery rate in 2022-2023 was 51%.⁷

It is anticipated that the waste minimisation measures in the following sections will assist the Development to achieve this recycling rate. Waste reporting and audits can be used to determine the actual percentage of wastes that are being or have been recycled during operation.

6.2 Waste Streams and Classifications

The operation of the Development generates, and is likely to generate in the future, the following broad waste streams:

- Domestic type waste generated by tenants, staff and visitors
- Office waste
- Bulky packaging waste such as cardboard, plastic film and polystyrene
- Garden organic waste from landscaped areas
- Bulky waste items such as furniture and e-waste.

Potential waste types, their associated waste classifications, and management methods are provided in Table 8 below.

Table 8 Potential operational waste types, classifications and management methods

Waste Types	NSW EPA Classification	Proposed Management Method
Clean office paper	General solid (non-putrescible) waste	Paper recycling at off-site licensed facility
Cardboard including bulky cardboard boxes	General solid (non-putrescible) waste	Cardboard recycling at off-site licensed facility
Recyclable beverage containers, glass and plastic bottles, aluminium cans, steel cans	General solid (non-putrescible) waste	NSW container deposit scheme 'Return and Earn' container recycling at off-site licensed facility
Food waste	General solid (putrescible) waste	Donate, if suitable, alternatively compost on or off-site or dispose to landfill with general garbage
Batteries	Hazardous waste	Off-site recycling alternatively contact the Australian Battery Recycling Initiative for more information
Mobile Phones	Hazardous waste	Off-site recycling can be taken to several locations through the Mobile Muster

⁷ <https://www.epa.nsw.gov.au/your-environment/waste/waste-overview/waste-performance-data>



Waste Types	NSW EPA Classification	Proposed Management Method
		program. Contact Mobile Muster for more information
Bulky polystyrene	General solid (non-putrescible) waste	Off-site recycling or disposal at landfill
Furniture	General solid (non-putrescible) waste	Off-site reuse or disposal to landfill
E-waste	Hazardous waste	Off-site recycling
Printer toners and ink cartridges	Hazardous waste	Off-site recycling, free disposal box or bags and pickup service exists for printer toners and ink cartridges
Packaging materials, including wood, plastic, including stretch wrap or LDPE, cardboard, and metals	General solid waste (non-putrescible)	Off-site recycling
Wooden or plastic crates and pallets	General solid waste (non-putrescible)	Reused for similar projects, returned to suppliers, or off-site recycling
Sanitary waste, nappies	General solid (putrescible) waste	Contractor disposal at licensed facility
General garbage, including non-recyclable plastics	General solid (putrescible and non-putrescible) waste	Disposal at landfill
Spent smoke detectors ⁸	General solid (non-putrescible) waste, or Hazardous waste (some commercial varieties)	Disposal to landfill, or off-site disposal at licensed facility
Glass, other than containers	General solid (non-putrescible) waste	Off-site recycling
Light bulbs and fluorescent tubes	Hazardous waste	Off-site recycling or disposal, contact FluoroCycle for more information
Air-conditioning parts and filters	General solid (non-putrescible) waste	Off-site recycling or disposal to landfill
Garden organics – lawn mowing, tree branches, hedge cuttings, leaves	General solid (non-putrescible) waste	Reuse on-site or contractor removal for recycling at licenced facility

For further information on how to determine a waste's classification refer to the NSW EPA (2014) Waste Classification Guidelines.⁹ Recycling drop-off locations and contacts can be found on <https://businessrecycling.com.au/> for each waste type.

⁸ 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.

⁹ Available online from <https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/waste-classification-guidelines>



6.3 Waste Quantities

6.3.1 Warehouse and offices

Fairfield Council's documentation provides no waste generation rates for any new developments. Instead 'Warehouse' waste generation rates from the Penrith DCP, and 'Offices' waste generation rates from the NSW EPA's C&I Guidelines, been used for estimating waste quantities from the development. These are shown below in Table 9.

Table 9 Operational waste generation rates

Development Use	Source Category	Litres per 100 m ² per day	
		General Waste	Recycling
Warehouse	Warehouse (office)	10	10
Offices	Office	8	6

Using the waste generation rates in Table 9 above, the approximate weekly waste quantities for the development have been calculated based on the following assumptions:

- The floor areas as shown in drawings:
 - 26180_Lot_2A_Drawings_260521.pdf
 - 26180_DA04_A_LOT 2B - OVERALL SITE PLAN.pdf.
- A week comprising seven days of operation.
- The composition of the warehouse recycling stream is 62% paper and cardboard, 30% plastic film and 7% recyclable containers.
- The composition of the office recycling stream is 93% paper and cardboard, 5% plastic film and 2% recyclable containers.

The estimated quantities of operational waste generated by the development, in both the warehouse and offices areas in Building 2A are shown in Table 10 below.

Table 10 Building 2A - Estimated operational waste and recycling quantities

Use	Area m ²	Total per Day (L)		Total per Week (L)			
		Garbage	Recycling	Garbage	Paper and Cardboard	Plastic Film	Recyclable Containers
Warehouse	14,267	1,427	1,427	9,987	6,224	3,039	724
Offices ¹⁰	781	62	47	437	304	16	8.0
Total	15,048	1,489	1,474	10,424	6,528	3,055	732

The estimated quantities of operational waste generated by the development, in both the warehouse and offices areas in Building 2B are shown in Table 10 below. These figures do not include the fleet workshop.

¹⁰ Includes main office and dock office



Table 11 Building 2B - Estimated operational waste and recycling quantities

Use	Area m ²	Total per Day (L)		Total per Week (L)			
		Garbage	Recycling	Garbage	Paper and Cardboard	Plastic Film	Recyclable Containers
Warehouse	129,750	10,559	10,559	73,910	46,060	22,494	5,356
Offices ¹¹	20,943	1,675	1,257	11,728	8,152	429	215
Total	150,693	12,234	11,815	85,638	54,212	22,923	5,570

6.3.2 Fleet workshop

In addition to the two warehouses, a fleet workshop is proposed. Drawings show ten heavy vehicle maintenance bays. The quantities of different waste types generated from the fleet workshop are based on the following assumptions:

- 2,500–3,500 services per year, about five to seven vehicles per day
- Mix of routine servicing, brake work, drivetrain, suspension and minor component rebuilds
- No major engine rebuilds are undertaken.

Quantities of waste will vary depending on:

- The fleet mix, for example, whether semi-trailers, B-doubles or heavy rigid vehicles are serviced
- Whether preventive or breakdown maintenance is undertaken
- Whether component rebuilds are outsourced or undertaken in house.

Estimates of the quantities of waste types are shown in Table 12 below

Table 12 Fleet workshop waste estimates

	Material	Measure
Total per week	Oils and fluids (L) ¹²	508
	Oil and fuel filters (kg) ¹³	58
	Oily solids and absorbents (kg)	154
	Scrap metal (kg) ¹⁴	600
	Tyres and belts (t)	13.5
	Batteries (units)	2.9

¹¹ Includes main office ground floor, main office Level 1, dock office A, dock office B, gatehouse and van parking and staging level

¹² Heavy vehicles commonly require 20–40 L of engine oil per service, plus additional oils for driveline and hydraulics. Sources - <https://www.epa.gov/hw/managing-used-oil-answers-frequent-questions-businesses>, <https://www.epa.gov/system/files/documents/2023-01/bmp-vehicle-maintenance-and-washing.pdf>, <https://blogs.icrc.org/logistics/wp-content/uploads/sites/117/2024/02/GLO-SOP-Workshop-Waste-Management.pdf>, <https://mcfenvironmental.com/handling-disposing-oil-waste-fleet-maintenance-perspective/>, <https://greenisol.com/waste-oil-handling-in-automotive-workshops/>.

¹³ Sources - <https://www.epa.gov/hw/managing-used-oil-answers-frequent-questions-businesses>, <https://blogs.icrc.org/logistics/wp-content/uploads/sites/117/2024/02/GLO-SOP-Workshop-Waste-Management.pdf>.

¹⁴ Typically brake components, suspension parts and driveline items



	Material	Measure
	Garbage (kg)	300
	Recyclables (kg)	400
	Coolants, solvents and chemicals (L) ¹⁵	96.2
Container Capacity	Oils and fluids (L)	1000
	Oil and fuel filters (L)	240
	Oily solids and absorbents (L)	660
	Scrap metal (m ³)	7
	Tyres and belts (m ³)	7
	Batteries (L)	1000
	Garbage (m ³)	3
	Recyclables (m ³)	3
	Coolants, solvents and chemicals (L)	1000
Minimum collections per week	Oils and fluids	2
	Oil and fuel filters	2
	Oily solids and absorbents	2
	Scrap metal	Monthly
	Tyres and belts	1
	Batteries	1
	Garbage	1
	Recyclables	1
	Coolants, solvents and chemicals	Every two months
Number of bins, containers, pallets, stillages	Oils and fluids	1
	Oil and fuel filters	1
	Oily solids and absorbents	1
	Scrap metal	1
	Tyres and belts	1
	Batteries	1
	Garbage	1
	Recyclables	1
	Coolants, solvents and chemicals	1
Area Required (m ²)	Oils and fluids	3.2
	Oil and fuel filters	0.4
	Oily solids and absorbents	1.8
	Scrap metal	10.0
	Tyres and belts	10.0
	Batteries	3.2
	Garbage	2.7
	Recyclables	2.7

¹⁵ Sources - <https://www.epa.gov/hw/managing-used-oil-answers-frequent-questions-businesses>,
<https://blogs.icrc.org/logistics/wp-content/uploads/sites/117/2024/02/GLO-SOP-Workshop-Waste-Management.pdf>.



	Material	Measure
	Coolants, solvents and chemicals	3.2
	Total Bins Only	37.4
	Total including Manoeuvring	74.8

The table shows that an area of about 74.8 m² is required for waste storage at the Fleet Workshop.

6.4 Waste Storage Area Size

6.4.1 Garbage and Recycling Bins

The waste storage areas for the development must be large enough to adequately store all quantities of operational waste and recycling between collections. Given the nature of the development and its size and scope, two compactors are proposed for waste and recyclable paper and cardboard as well as front-lift collection services for plastic film and a rear lift service for recyclable containers. Some specialist containers may be required for waste from the fleet workshop.

Compactors with 30 m³ capacity with footprints of about 15.6 m² have been chosen, however, these may vary depending on the compactor capacity, type of compactor, supplier and manufacturer. A typical front-lift bin capacity is 3 m³ and these have been assumed when calculating bin numbers and storage space. Recyclable containers are most likely to be collected in 240 L or 1100 L rear-lift bins. To allow for ready movement of bins into and out of the bin storage areas, at least 200% of the total minimum bin footprint has been allowed for.

The proposed dimensions for 3 m³, 1100 L bins and 240 L bins are those published in the EPA G&I Guidelines. The compactor dimensions are from manufacturer Waste Initiatives.¹⁶ All dimensions are shown in Table 13 below. Bin dimensions may differ slightly between manufacturers.

Table 13 Bin dimensions

Bin Capacity	Height (mm)	Depth (mm)	Width (mm)	Footprint (m ²)
240 L	1060	730	580	0.42
1100 L	1470	1245	1370	1.71
3 m ³	1225	1505	1805	2.72
30 m ³	2600	6500	2400	15.6

6.4.2 Total Waste Storage Area

The estimated number of bins required for weekly storage of operational waste and recycling generated at each warehouse are shown in tables below and are based on:

- The estimated quantities of operational waste and recycling shown in Table 10 and Table 11

¹⁶ [https://wasteinitiatives.com.au/product/compactor-bins/compactor-bins/#:~:text=Table_title:%20Dimensions%20Table_content:%20header:%20%7C%20Code%20%7C,Capacity:%2035m%C2%B3%20%7C%20Height%20\(H\):%202750%20%7C](https://wasteinitiatives.com.au/product/compactor-bins/compactor-bins/#:~:text=Table_title:%20Dimensions%20Table_content:%20header:%20%7C%20Code%20%7C,Capacity:%2035m%C2%B3%20%7C%20Height%20(H):%202750%20%7C)



- The bin dimensions shown in Table 13.

The estimated number of bins required for weekly storage of operational waste and recycling generated at from Building 2A are shown in Table 14 below.

Table 14 Estimated number of bins and storage areas – Building 2A

Bin Capacity		3 m ³	1100 L
Total per week (L)	Garbage	10,424	
	Paper and Cardboard	6,528	
	Plastic Film	3,055	
	Recyclable Containers		732
Minimum collections per week	Garbage	2	
	Paper and Cardboard	1	
	Plastic Film	1	
	Recyclable Containers		2
Number of bins	Garbage	2	
	Paper and Cardboard	3	
	Plastic Film	2	
	Recyclable Containers		2
	Total	7	2
Area Required (m ²)	Garbage	5.4	
	Paper and Cardboard	8.1	
	Plastic Film	5.4	
	Recyclable Containers		0.8
	Total Bins Only	19.0	0.8
	Total including Manoeuvring	38.0	1.7
Total Waste Storage Space (m2)		39.7	

The estimated number of bins required for weekly storage of operational waste and recycling generated at each warehouse in Building 2B are shown in Table 14 below.

Table 15 Estimated number of bins and storage areas – Building 2B

Bin Capacity		30 m ³	3 m ³	240 L
Total per week (L)	Garbage	85,638		
	Paper and Cardboard	54,212		
	Plastic Film		22,923	
	Recyclable Containers			5,570
Minimum collections per week	Garbage	1		
	Paper and Cardboard	1		
	Plastic Film		3	
	Recyclable Containers			2
Number of bins	Garbage	1		
	Paper and Cardboard	1		
	Plastic Film		3	



Bin Capacity		30 m ³	3 m ³	240 L
	Recyclable Containers			3
	Total	2	3	3
Area Required (m ²)	Garbage	15.6		
	Paper and Cardboard	15.6		
	Plastic Film		8.1	
	Recyclable Containers			5.1
	Total Bins Only	31.2	8.1	5.1
	Total including Manoeuvring	62.4	16.3	10.2
Total Waste Storage Space (m2)		88.9		

6.5 Waste Storage Locations

6.5.1 Building 2A

The drawings for Building 2A show a waste storage area on the main warehouse hardstand apron. This is shown in Figure 6 below.

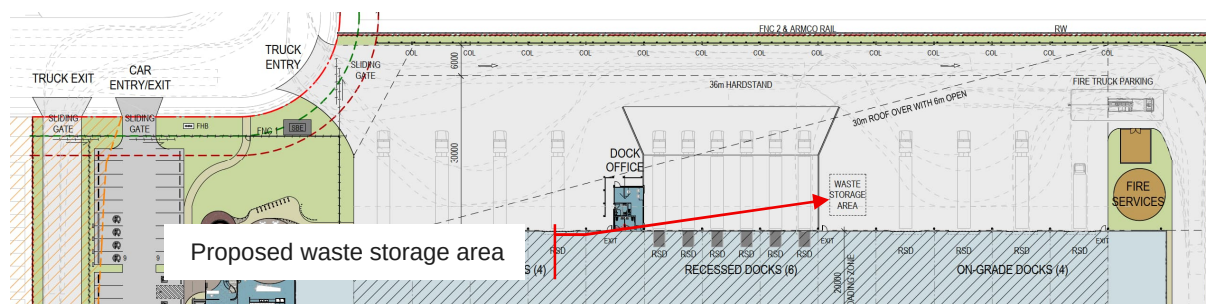


Figure 6 Waste storage location Building 2A

The proposed area is about 56 m² in area which is more than enough for the number and types of bins proposed.

6.5.2 Building 2B

The assumed waste storage areas for Building 2B are shown in Figure 6 below. Compactors for garbage and cardboard at other end of the building and another storage area of about 30 m². The areas provided are adequate for the bins and waste streams estimated. The tenant may choose other different locations or a different number or combination of locations.



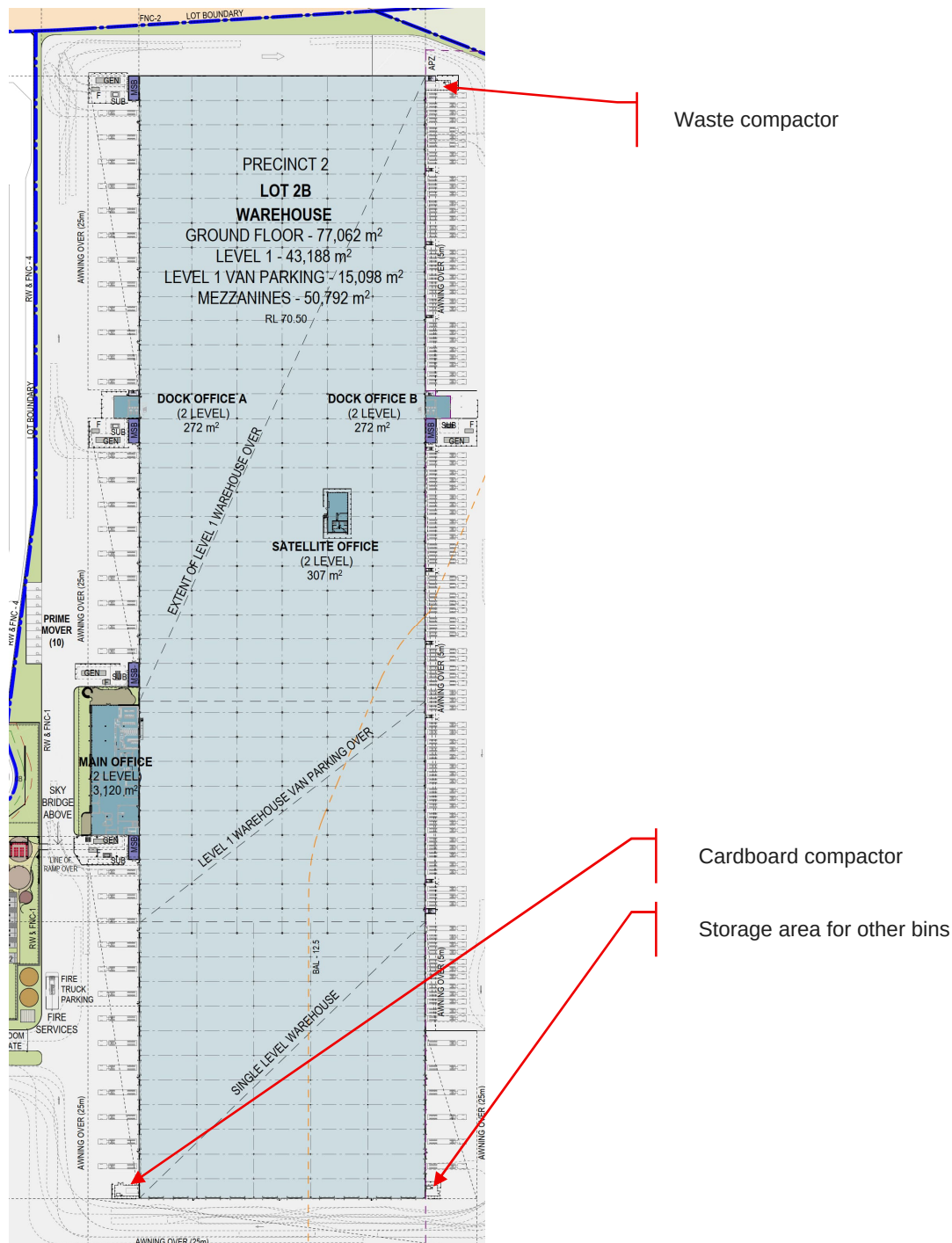


Figure 7 Waste storage areas Building 2B



6.6 Fleet Workshop

The location of the waste storage area is shown in Figure 6 below.

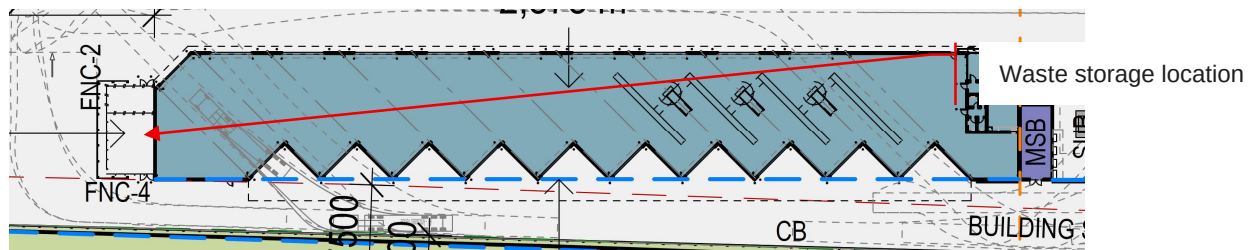


Figure 8 Fleet workshop waste storage

The area shown is 75 m² which is adequate for the proposed types and quantities of waste estimated to be generated.

6.7 Waste Vehicle Access

The following access provisions will apply for collections:

- Collection vehicles will be able to enter and exit the site in a forward direction
- Unobstructed access, adequate driveways and ramps of sufficient strength to support waste collection vehicle have been allowed for.

Please refer to the separate traffic engineers report for more details.

6.8 Waste Avoidance, Reuse and Recycling

6.8.1 Waste avoidance

Other waste avoidance measures that could be investigated include:

- Returning packaging materials like cardboard to the suppliers through the services of the supplier delivery trucks, allowing the reduction of waste further along the supply chain
- Providing ceramic cups, mugs, crockery and cutlery rather than disposable items
- Bulk purchasing and the purchasing of items that use minimal packaging
- Presenting all waste reduction initiatives to staff and tenants as part of their induction program, and
- Leasing equipment and machinery rather than outright purchase and disposal.

6.8.2 Re-use

Possible re-use opportunities include establishing systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.

6.8.3 Recycling

Recycling opportunities include:

- Collecting and recycling e-waste



- Printer toners and ink cartridges, if purchased, are collected in allocated bins for appropriate contractor recycling
- Paper recycling trays provided in communal and staff areas for scrap paper collection and recycling and
- Development of 'buy recycled' purchasing policy.

6.9 Communication Strategies

Education and communication on waste management initiatives and measures will be regularly and clearly conveyed to staff, cleaners, and visitors. 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 which can incur a collection contractor penalty fee
- Increased recovery of recyclables and organics material, if implemented, and
- Greater contribution to state-wide targets for waste reduction and resource recovery.

To realise these benefits, the following communications strategies are recommended:

- Use consistent signage and colour coding throughout the Development
- Ensure all staff are informed of correct waste separation and management procedures
- Provide directional signage to show locations and routes to waste storage areas
- Repair signs and labels promptly to avoid a breakdown in communication
- Clearly label bins to ensure no cross contamination and to identify the types of waste that may be disposed of in each bin, and
- Educate all staff and contractors associated with the Development, ensuring they adhere to this WMP.

6.10 Signage

Signs which clearly identify waste management procedures and provisions to contractors, staff and visitors should be posted at the Development as appropriate.

Colour-coded and labelled bin lids are necessary for identifying bins and the Australian Standard AS 4123.7-2006 (R2017) *Mobile waste containers Part 7: Colours, markings, and designation requirements* provides recommendations for the designated colours for waste bins depending on the type of waste the bins are to receive. The colours that will apply to ongoing waste generated by the Development are:

- Blue: Paper and cardboard
- Yellow: Recyclables (other than paper and cardboard)



- Red: General waste.

All bin signage should also follow the NSW EPA's standard signage.¹⁷

Other key signage considerations include:

- 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, as shown in Figure 9.
- 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
- Maintaining a consistent style colour scheme that complies with AS 4123, and a system for signs throughout the Development, and
- Emergency contact information for reporting issues associated with waste or recycling management.



Figure 9 Example NSW EPA labels for operational waste

6.11 Roles and Responsibilities

It is the responsibility of the Applicant, or equivalent role, to implement this WMP and a responsibility of all tenants and staff to follow the waste management procedures set out by the WMP. SLR recommends that all subcontractors have the roles and responsibilities of all waste management personnel identified and The Development's waste management system clearly explained. A summary of recommended roles and responsibilities are provided in Table 16 below.

Table 16 Suggested operational waste-related roles and responsibilities

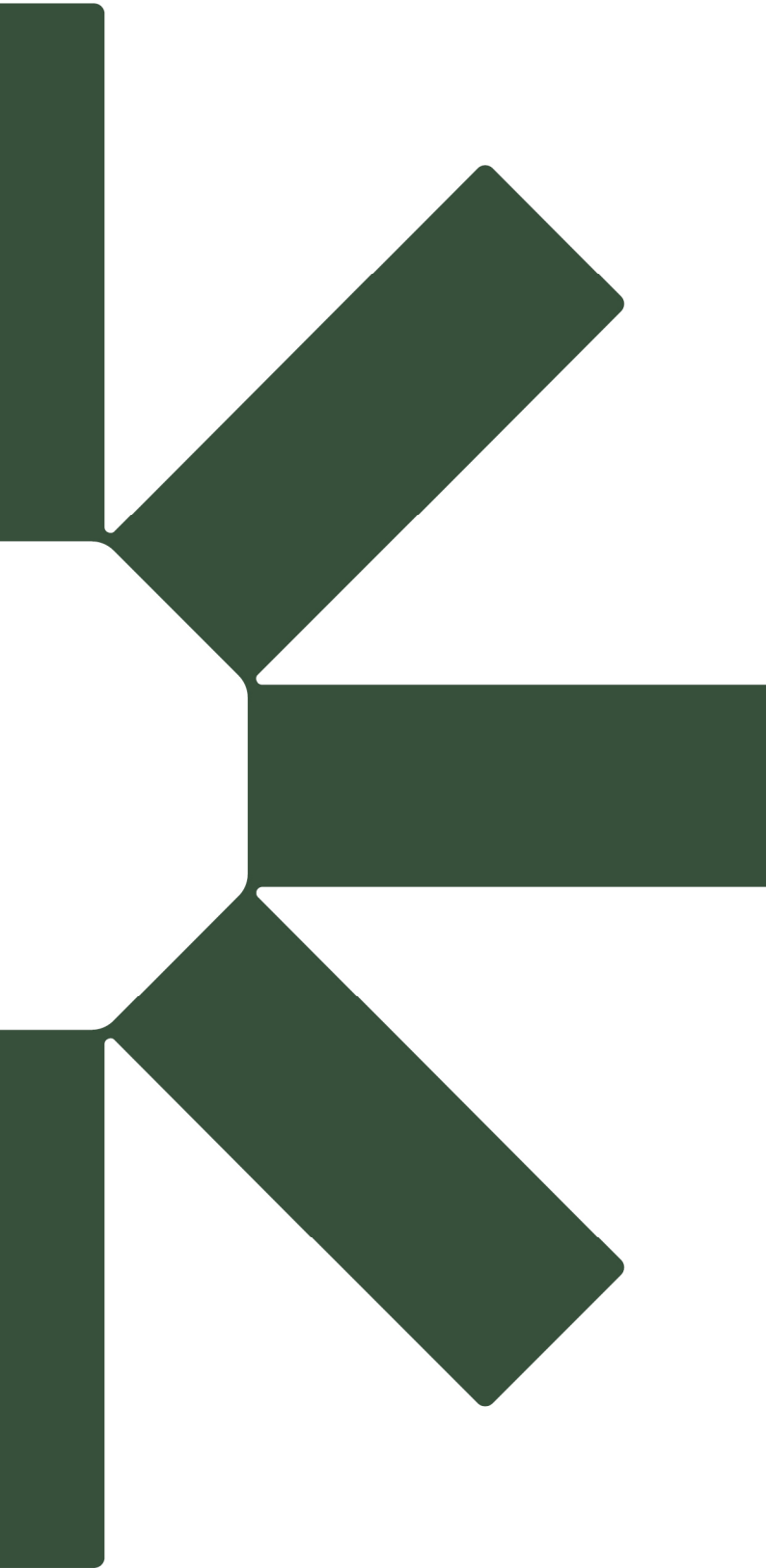
Responsible Person	General Tasks
Building Manager or equivalent role	Ensure the WMP is implemented throughout the life of the operation.
	Update the WMP as needed to ensure the plan remains applicable to the site.

¹⁷ NSW EPA waste signs/posters <http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm>



Responsible Person	General Tasks
	Regularly conduct waste audits to review system performance and identify any additional materials that could be recovered.
	Manage any complaints and non-compliances reported through waste audits and other sources.
	Ensure all monitoring and audit results are well documented and conducted as specified in this WMP.
	Collect waste from landscaping and facilities such as fluorescent lights and garden organics
Cleaners and caretakers	Transfer general waste, recyclables, cardboard waste and hazardous waste from public spaces to the waste and recycling storage areas on a daily basis or as required.
	Maintain and operate compactors and balers, if obtained, and ensure no overfilling occurs.
	Cleaning of all bins and waste and recycling rooms as per the direction of the site manager, or equivalent role.
	Monitor bins to ensure no overfilling occurs.
	Ensure bins and waste storage areas are kept tidy and clean.
	Compliance with the provisions of this WMP.
Tenants	Transfer general waste, recyclables, cardboard waste and hazardous waste to allocated waste and recycling storage areas in the loading docks.
	Adhere to all waste management directions and comply with the Development's waste management provisions as outlined by the Building Manager.
	Ensure effective signage, communication and education is provided to alert visitors, employees, site management staff and cleaners about the provisions of this WMP and waste management equipment use requirements.
	Monitor and maintain signage to ensure it remains clean, clear and applicable.
	Manage ongoing education on correct source separation and waste management at least every three months.
	Ensure that regular cleaning and daily transfer of bins is correctly being undertaken by the cleaners.
	Ensure all waste compactors and balers are maintained and operational.
	Ultimately responsible for the management of all waste management equipment, cleaning requirements, waste transfer and collection arrangements.





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