

Dexus

52-60 Collins Street

Operational Waste Management Plan

Final Report | 05 February 2021

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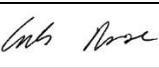
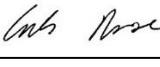
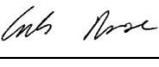
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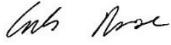
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Job title		52-60 Collins Street		Job number		270195	
Document title		Operational Waste Management Plan				File reference	
Document ref							
Revision	Date	Filename	52-60 Collins Street_OWMP_Draft_20190807_Issue.pdf				
Draft 1	07 Aug 2019	Description	First draft				
			Prepared by	Checked by	Approved by		
		Name	Curtis Elliot	Giles Prowse			
		Signature					
Issue for Town Planning	16 Aug 2019	Filename	52-60 Collins Street_OWMP_Issue for Town Planning_20190816.pdf				
		Description	Issue for Town Planning				
			Prepared by	Checked by	Approved by		
		Name	Curtis Elliot	Giles Prowse	Giles Prowse		
		Signature					
Draft 2	14 Dec 2020	Filename	52-60 Collins Street_OWMP_DraftIssue_20201209				
		Description	Draft OWMP Report				
			Prepared by	Checked by	Approved by		
		Name	Ellie Lourey Lilli Thannhauser	Giles Prowse	Giles Prowse		
		Signature					
Final	29 Jan 2021	Filename	52-60 Collins Street_OWMP_FinalIssue_2021 01 19				
		Description	Final OWMP Report				
			Prepared by	Checked by	Approved by		
		Name	Ellie Lourey Lilli Thannhauser	Giles Prowse	Giles Prowse		
		Signature					
Final 2		Filename	52-60 Collins Street_OWMP_FinalIssue2.0_2021 02 05				

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05 Feb 2021	Description	Final OWMP Report		
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1 Introduction

1.1 Overview of the proposed development

60 Collins St is a mixed commercial development project in Melbourne’s CBD with 36 levels of commercial office space, 4 levels of basement, 2 plant levels, 1 roof terrace / plant level and, mixed food and beverage, retail, lobby and co-working spaces on the ground levels.

The site of the proposed development is located on the north west corner of Collins and Exhibition Streets in Melbourne’s CBD, 52 – 60 Collins Street, see Figure 1.

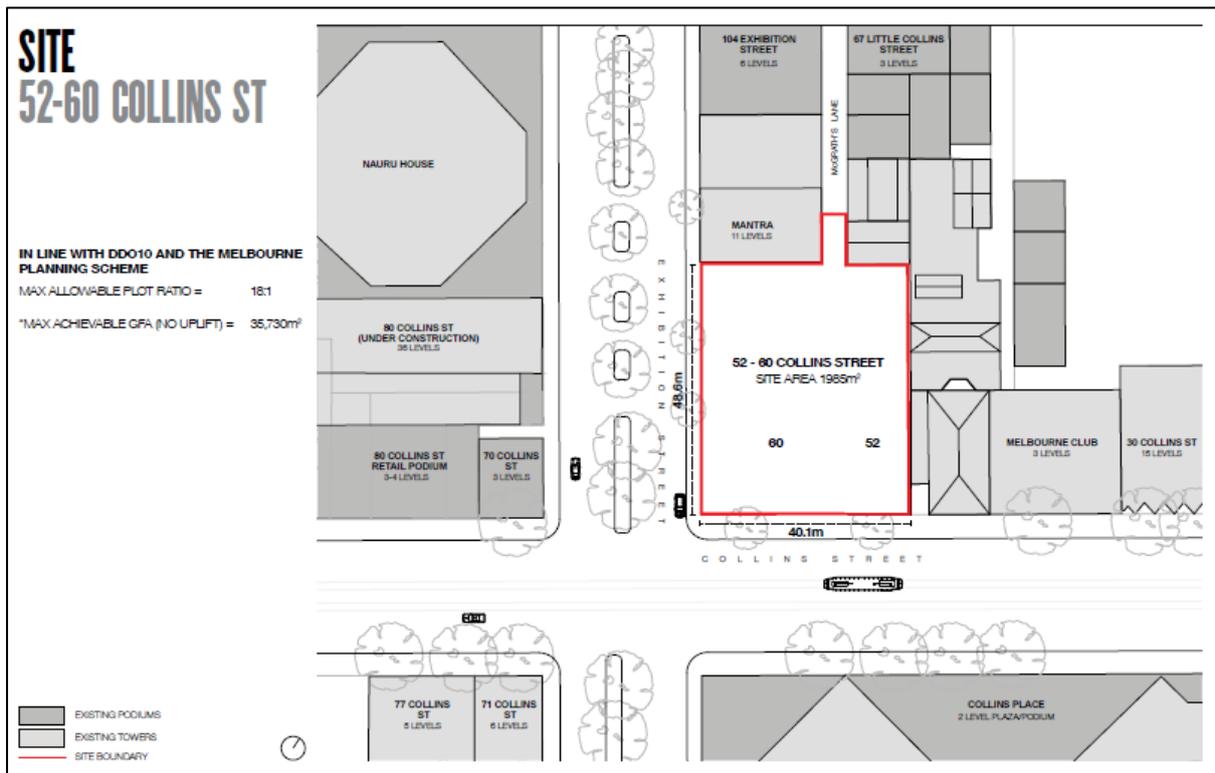


Figure 1 Location of the proposed development.

The land for the proposed development is designated as DDO10: Schedule 1 area 2 as stipulated by The State of Victoria, shown in Figure 2 below.

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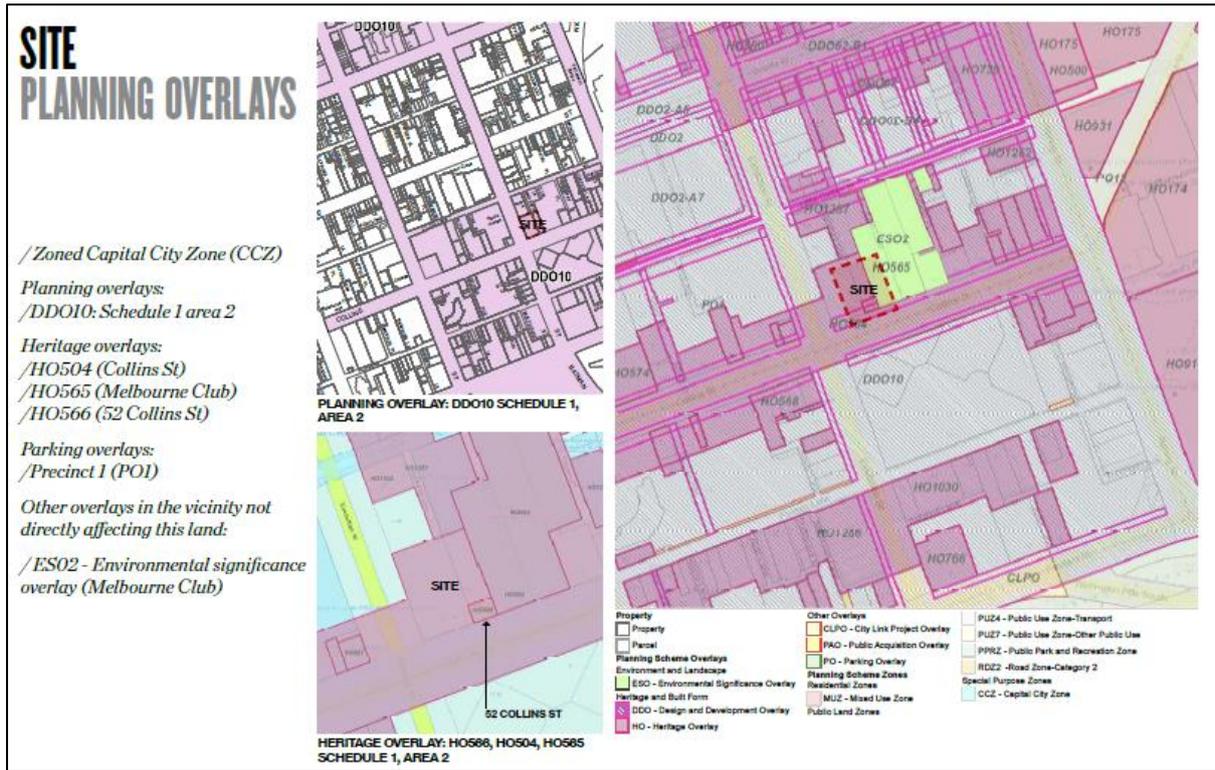


Figure 2 Proposed development land use zoning.

1.2 Purpose of this OWMP

This Operational Waste Management Plan (OWMP) identifies waste sources and identifies management measures for the proposed development. This OWMP has been revised since the previous Town Planning submission to reflect the updated design. This report may also assist with the development of a waste auditor report required as part of a Green Star submission.

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2 Key legislation and guidelines

2.1 Victorian state legislation and policy

The legislative framework for waste management in Victoria is provided by the following:

- *The Environmental Protection Act 1970* forms a regulatory framework around the activities of individuals and corporate bodies. It outlines Victoria's central waste management concept of resource efficiency and establishes the waste hierarchy.
- *The Planning and Environment Act 1987* provides the legislative framework for all Victorian Planning Provisions and planning schemes. It is the enabling legislation for City of Melbourne requirements for new developments, including those relating to waste management planning.
- *Recycling Victoria* is the Victorian Government's 10-year policy and action plan for waste and recycling. One of the plans action items is the introduction of a container deposit scheme. The container deposit scheme will be introduced by 2022/23.

2.2 City of Melbourne guidelines for preparing a Waste Management Plan

The City of Melbourne *Guidelines for Preparing a Waste Management Plan*¹ were updated in 2017 as guidance for developers and planning permit applicants in the City of Melbourne.

The City of Melbourne Waste Guidelines were used as the primary guideline to inform this OWMP. The specific section of the Guidelines which pertain to the proposed development is 'Commercial Waste Management Plans'. The following details are required in a waste management plan:

- Land use details;
- Waste generation;
- Waste systems;
- Bin quantity, size and colour;
- Collection frequency;
- Bin storage;
- Collection location;
- Additional waste requirements;
- Scaled waste management drawings;
- Collection contractors; and
- Signage.

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¹ <https://www.melbourne.vic.gov.au/sitecollectiondocuments/waste-management-plan-guidelines.pdf>

2.3 Green Star

A Green Star assessment is being sought for this development, with ambitions of a 6-star rating under the Green Building Council of Australia (GBCA) Green Star Design and As Built v1.2 rating tool. The waste management facilities and procedures set out in this OWMP align with the requirements of Credit 8A – Operational Waste.

The performance pathway relevant to the proposed development is the Specialist Pathway. Table 1 outlines the requirements of Credit 8A.

Table 1 Performance Pathway: Specialist Plan Green Star credit overview.

Option 8A	Criteria	Requirements
Performance Pathway: Specialist Plan	1 point is available where a qualified waste auditor prepares and implements an Operational Waste Management Plan (OWMP) for the development in accordance with best practice approaches. The requirements or recommendations made in the OWMP must then be reflected in the design of the building’s facilities.	<ul style="list-style-type: none"> Identify the site boundary, the waste streams relevant to the project, and the individual roles responsible for delivering and reviewing the OWMP. Set diversion from landfill targets and/or targets for reducing total materials generation (general waste materials and recyclable/reusable materials), as well as monitoring and measurement procedures for waste and recycling streams by weight. Outline methods for encouraging the separation of waste streams, such as bins, storage areas or recycling facilities in public areas as required. Identify storage areas for all waste streams and outline best practice safety and access requirements for their collection. Identify safe methods for vehicle access and transfer of waste; and Incorporate a review process to assess the success of the OWMP and make improvements, based on operational experience.

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3 Targets, monitoring and measurement

High quality waste data can improve the overall level of accuracy, transparency of, and confidence in, waste data. It enables meaningful and accurate comparisons and benchmarking to be conducted both within portfolios and between waste contractors. It can also inform strategic resource planning and provide insight into equipment/operational efficiency as well as ensuring accuracy of invoicing and fees. Greater resource recovery can be achieved by accurately measuring current and future waste performance.

3.1 Waste targets

The proposed development will adopt a proposed operational waste *landfill diversion target* of 80%. This will be calculated as follows:

$$\frac{\text{total waste (kg)} - \text{landfill waste (kg)}}{\text{total waste (kg)}} \times 100\%$$

Data to monitor progress against this target will be sourced from bin weight data provided by the nominated waste service provider.

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3.2 Monitoring and measurement

Data pertaining to the proposed development’s waste generation will be collected, collated, and recorded by the waste service provider to ensure best practice monitoring procedures to help measure progress towards achieving waste targets.

3.2.1 Operations

The nominated waste service provider for the proposed development must adhere to this OWMP and comply with minimum operational safety standards.

The waste service provider must be able to attribute a weight to each bin collected, and weight must be measured according to the individual waste stream with evidence regarding the integrity of any scales/meters used. Weight must be recorded in an agreed format and forwarded on to the preferred contact for the proposed development at the close of each invoicing period.

Where the waste service provider observes contamination in a recycling bin, that bin must be weighed and added to the operational waste management report as a ‘contamination incident’. The contents in the contaminated bin must then be disposed of as general waste and the incident reported to the preferred contact for at the proposed development.

The waste service provider must supply equipment (bins, signage/stickers etc.) colour-coded in accordance with the Australian Standard 4123 and approved by the preferred contact for the proposed development.

3.2.2 Contamination audit

A site-specific contamination audit of each recycling stream is recommended annually. This audit is conducted internally and must be overseen by an independent and competent person.

For two consecutive collections, the contents of the sample are to be audited to determine the level of “non-acceptable” items. The sample will consist of all bins normally presented for collection and non-acceptable items must be as advised by the receiving facility.

Contamination rate is determined as the total mass of ‘non-acceptable’ items expressed as a percentage of the total weight of all bins in the sample.

Where contamination is deemed unacceptable, the preferred contact for the proposed development should seek to address this issue for the proposed development (e.g. through educational or other means).

3.2.3 Reporting

The waste service provider is to issue periodic operational waste management reports (e.g. on a monthly or quarterly basis) to the preferred contact for the proposed development, including:

- A list quantifying the amount and types of waste generated.
- A list of contamination incidents including the masses of contaminated bins.
- Records and evidence to substantiate data contained within reports to the nominated reporting standard.

3.3 Review of OWMP

The waste service provider and cleaning contractor will annually review the OWMP with the preferred contact for the proposed development as well as any other relevant parties to determine enhancements, sustainability initiatives and other waste management initiatives. They will communicate any changes to waste management arrangements to tenants of the proposed development at a minimum on an annual basis or as needs dictate.

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4 Operation

This section details an overview of waste streams anticipated to be generated during operation, their segregation, and their estimated volumes.

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4.1 Operational waste streams

The waste streams that will be generated during operation of the proposed development are identified below in Table 2.

Table 2 Operational waste streams by operational area

Waste streams	Operational area	Destination
General waste	Entire building (basement levels exempted)	Off-site landfill
Organic waste (i.e. food waste)	Entire building (basement levels exempted)	Off-site organic treatment (recycling)
Paper and cardboard	Entire building (basement levels exempted)	Off-site recycling
Co-mingled recycling	Entire building (basement levels exempted)	Off-site recycling
Hard / bulky items ²	Entire building (basement levels exempted)	Off-site recycling / off-site landfill
Electronic waste (e-waste) ²	Entire building (basement levels exempted)	Off-site recycling / off-site landfill
Sanitary waste ³	Entire building (basement levels exempted)	Off-site landfill
Soft Plastic ²	Entire building (basement levels exempted)	Off-site recycling
Recyclable containers ⁴ (container deposit scheme) ²	Entire building (basement levels exempted)	Off-site recycling

4.2 Operational waste generation

Waste generation volumes for the proposed development have been estimated to determine storage and collection requirements. Generation volumes have been calculated from the waste generation rates listed in the City of Melbourne Waste Management Plan guidelines in conjunction with the floor area schedule dated 18/12/20⁵ (Ground Floor Area) and the drawings dated 18/12/20⁶ (scaled from drawings as needed) for the proposed development, according to intended occupancy type. Area uses are summarised in Table 3 below. Please note that Table 3 represents the proposed development area schedule as per the ‘201218_52-60_Collins_St_Area_Schedule.pdf’. The area schedule has since been updated (210129_52-60_Collins_St_Area_Schedule.pdf). Changes to the area schedule are minor and have

² Due to an absence of data and waste generation rates no waste generation estimates have been undertaken for hard / bulky waste, e-waste, sanitary waste, soft plastic and recyclable CDS containers.

³ Sanitary waste is collected by an external contractor at the point of waste generation.

⁴ ‘Recyclable Containers’ refers to drink cans and bottles that are collected for the container deposit scheme.

⁵201207_52-60_Collins_St_Area_Schedule.pdf

⁶201207_60C_Architectural_Backgrounds_Prelim.pdf

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minimal impact on the waste generation calculations. Therefore, all waste calculations are based off '201218_52-60_Collins_St_Area_Schedule.pdf'.

Table 3 Proposed development area schedule ⁷

Level	Office (m ²)	Lobby (m ²)	Cafes (m ²)	Retail (m ²)
B04 – B01	Plant			
Ground Lobby		770	102	394
Mezzanine	250			165
01	1635			
02 up to 08	1750			
09	1743			
10 up to 17	1609			
18	1593			
19 up to 36	1285			
37	532			
38	Plant			
Total	54,005	770	102	559

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4.2.1 Key assumptions

The following assumptions have been made:

- It is assumed that waste collection for all streams will be every two days⁸ excluding organics which will be collected daily. This aligns with the City of Melbourne guidelines for preparing a Waste Management Plan which supports lower collection frequencies;
- Applicable generation areas have been referenced from drawings titled '201218_60C_Architectural_Backgrounds_Prelim.pdf';
- It is assumed that negligible waste will be generated by car park areas, end of trip (EOT) facilities, bike store areas, plant areas, bathrooms, lifts and associated back of house (BOH) areas. These areas have not been estimated;
- It is assumed that negligible waste will be generated at B01 and B02, therefore one 240L general waste bin and one 240L co-mingled recycling bin will be provided for each level to accommodate for movement through the EOT and bike store area;
- Area titled 'RETAIL/F&B' on Level 'Ground Lobby' from the drawings titled '201218_60C_Architectural_Backgrounds_Prelim.pdf' is assumed to comprise Food and Beverage retail, and has been forecasted as 'cafes' as per the City of Melbourne Guidelines for waste estimation purposes;

⁷ Table 3 represents the proposed development area schedule as per the '201218_52-60_Collins_St_Area_Schedule.pdf'. The area schedule has since been updated (210129_52-60_Collins_St_Area_Schedule.pdf). Changes to the area schedule are minor and have minimal impact on the waste generation calculations. Therefore, all waste calculations are based off '201218_52-60_Collins_St_Area_Schedule.pdf'.

⁸ Organic waste should be collected every day during operation, but this assumption allows for storage contingency.

- ‘Terrace’ areas have been assumed as offices for generation estimate purposes;
- ‘Commercial’ areas have been assumed as offices for generation estimate purposes;
- ‘Health & Wellbeing’ areas have been assumed as offices for generation estimate purposes;
- Waste streams are assumed to comprise ‘Landfill’ (i.e. general waste), ‘Organics’, ‘Co-mingled Recycling’ and ‘Paper & Card’:
 - 30% of the general waste stream will comprise organic waste (i.e. food waste) from cafes⁹;
 - 4% of the general waste stream will comprise organic waste (i.e. food waste) from offices¹¹;
 - 21% of the general waste stream will comprise organic waste (i.e. food waste) from generic non-food retail⁹
 - A capture rate of 75% of all organic waste generated in cafes and offices, with the remainder remaining in the general waste stream¹⁰. 51% of the recycling stream from cafes comprises paper and card¹¹, while the remaining 49% is comprised of co-mingled recycling¹¹;
 - 96% of the recycling stream from offices comprises paper and card¹¹, while the remaining 4% is comprised of co-mingled recycling¹¹; and
 - Front of House areas (Lobby) will generate Landfill waste and Co-mingled recycling only.
- Ground Floor Area’s (GFA) were taken for all commercial office spaces on levels 01 – 37 inclusive; and,
- Waste generation rates as per the City of Melbourne Waste Generation Rates guideline¹².

4.2.2 Generation rates

Applicable waste generation rates from the City of Melbourne Waste Generation Rates guideline are presented in Table 4 below.

Table 4 City of Melbourne waste generation rates.

Area types	Landfill Volume (L/100m ² /day)	Recycling Volume (L/100m ² /day)
Cafes	300	200
Offices	10	10
Generic non-food retail	50	50
Lobby / conference	10	10

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⁹ As per Encycle composition data for C&I sectors in Australia (Encycle, 2013).

¹⁰ A 75% capture rate for food and organics assuming good ‘buy-in’ for food waste segregation, with provision of good signage and waste education, although ultimately this will depend on staff and visitor behaviour.

¹¹ As per Encycle composition data for C&I sectors in Australia (Encycle, 2013).

¹² <https://www.melbourne.vic.gov.au/SiteCollectionDocuments/waste-generation-rates-jan-2015.pdf>

4.3 Total waste generation

The total two daily waste generation was calculated by multiplying the total area of applicable generation areas by their respective generation rates and then by two days, presented in Table 5 below.

Table 5 Total per day waste generation.¹³

Area types	Landfill waste (L/day)	Organics waste (L/ day)	Co-mingled recycling (L/day)	Paper and card recycling (L/ day)
Offices	5,238	162	202	5,198
Lobby	77	N/A	77	N/A
Cafes	237	69	100	104
Generic non-food retail	235	44	142	137
TOTAL	5,788	275	516	5,445

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¹³ Table 5 represents the waste generation as per the area schedule titled '201218_52-60_Collins_St_Area_Schedule.pdf'. The area schedule has since been updated (210129_52-60_Collins_St_Area_Schedule.pdf). Changes to the area schedule are minor and have minimal impact on the waste generation calculations. Therefore, all waste calculations are based off '201218_52-60_Collins_St_Area_Schedule.pdf'.

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5 Waste storage requirements

5.1 Central waste storage room

Waste storage area requirements were calculated according to volumes generated on a two day basis and City of Melbourne standard mobile garbage bin sizes.

5.1.1 Waste storage requirements

Waste storage area requirements were calculated using the waste generation rates, and additional storage requirements as stipulated by the City of Melbourne guidelines for preparing a waste management plan 2017. Note that a bin scaling factor of 1.5 has been applied to account for manoeuvrability and accessibility. The area requirement estimation for central waste and recycling storage is shown in Table 6 below.

Table 6 Area requirement estimation for central waste and recycling storage.

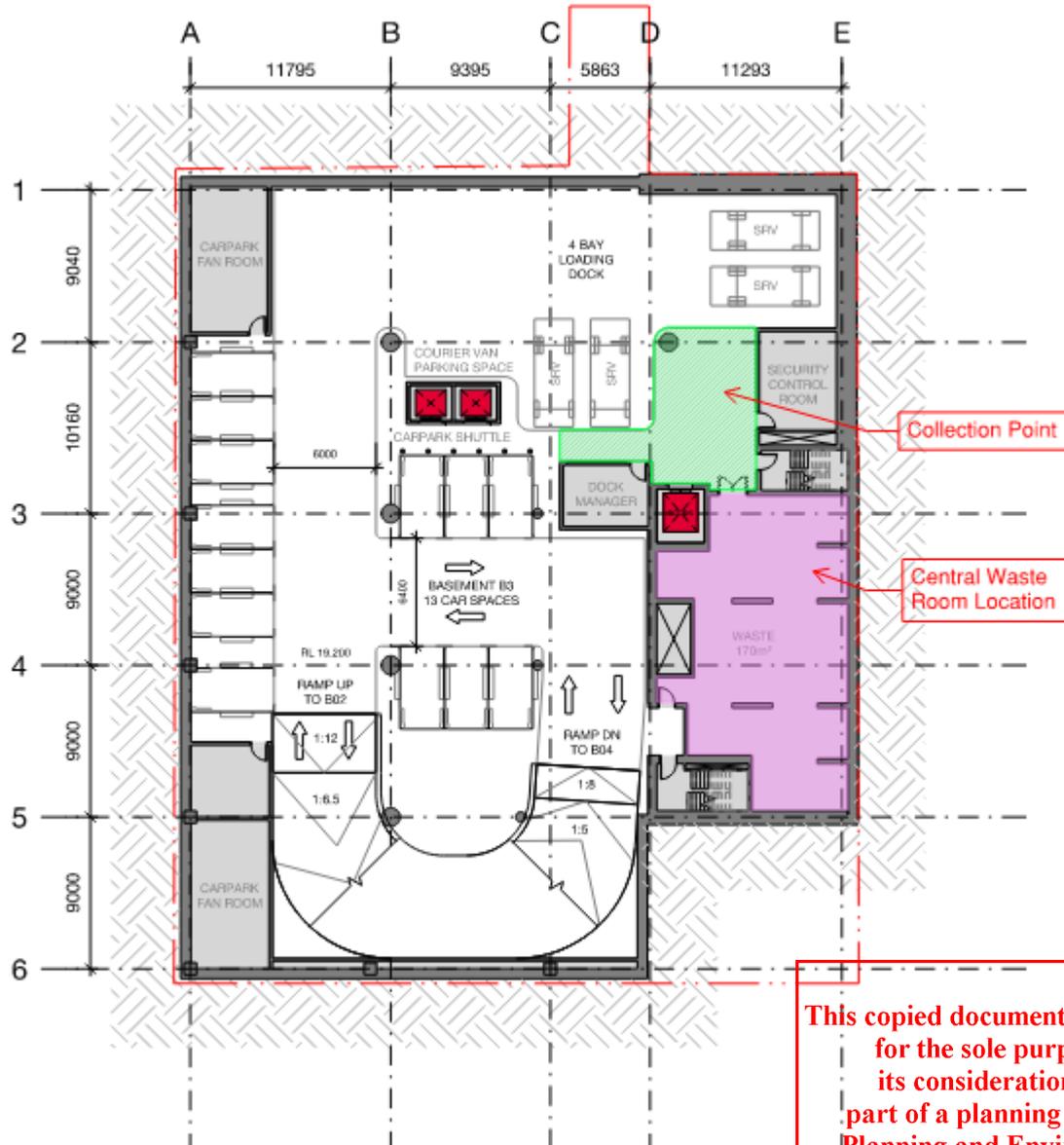
Component	Waste stream	Bin requirements for two days storage	Area m ²
Waste storage	General waste	12 x 1,100L general waste receptacles	22
	Organic waste	3 x 120L organic waste receptacles	1
Recycling storage	Co-mingled recycling	2 x 1,100L recycling receptacles	4
	Paper and card recycling	10 x 1,100L recycling receptacles	18
		Bin scaling factor	1.5
		Sub total	67
Hard waste storage	Bulky items / e-waste	Marked storage area	10
Recycling storage	Soft Plastics	Storage container	2
	Recyclable containers ⁴	Storage container	3
Bin wash-down area	All		10
Bin scales	All		4
Bin Lifter	All		2
		Total required	98

It is therefore estimated that an area of 98m² will be the minimum area required for onsite waste storage, assuming that waste collection frequency is every 2 days. The proposed waste storage room on the Basement 3 (B01) Level is currently **170 m²** and should be adequate for storing all waste generated by the proposed development.

5.1.2 Location

The central waste storage room will be located away from public access to minimise visual, odour, and safety impacts. The proposed central waste storage room and proposed collection point will both be located on the Basement 3 (B03) Level, as shown in Figure 3 below.

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Figure 3 Location of central waste storage room and waste collection point (on Basement B03 level).

5.1.3 Signage

Signage must be provided in the waste and recycling bin areas/drop off points throughout tenancies in the proposed development to encourage correct recycling and garbage disposal, in line with the requirements of the City of Port Phillip. All waste streams will be stored in clearly labelled, colour coded bins as appropriate to ensure that waste streams are not inadvertently mixed.

The standard colours of each waste stream are outlined in Table 7. These measures are necessary in order to encourage the appropriate separation of waste streams and the recovery of resources.

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Table 7 Standard bin colours

Bin	Colour
General waste	Red lid and dark green body
Co-mingled recycling	Yellow lid and dark green body
Paper / card recycling	Blue lid and blue body
Food organics	Maroon lid and dark green body

In addition, clear Occupational Health and Safety (OHS) signage must be provided as appropriate. In particular, appropriate OHS must be provided within each waste and recycling room.

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5.1.4 Design

The central waste storage room will be designed according to best practice provision as well as the Building Code of Australia and all relevant Australian Standards, see Table 8.

The central waste storage room must be located in a position that is convenient for both users and waste contractors. The access pathway for wheeling bins between a central waste storage point and a collection point must be free of steps or kerbs. The distance between the central waste storage room and its respective collection points will not exceed 15 m and must not exceed grade of 1 in 14.

Table 8 below provides a summary of design requirements relating to the waste storage facilities.

Table 8 Waste storage design provisions

Design aspect	Design provision
General	All waste management facilities will be compliant with the Building Code of Australia (BCA) and all relevant Australian Standards. The waste management system and storage areas will not be visible from the exterior of the building.
Surfaces	The floors of the waste storage rooms will be constructed of concrete of at least 75mm thickness and graded and drained to the sewerage system. The floors will be finished to a smooth, even surface, and covered at their intersection with walls and plinths. A ramp to the doorway will be provided if necessary.
Structure	The walls, ceilings and floors of the storage rooms will be finished with a light colour. The walls of the waste storage rooms will be constructed of approved solid impervious material and will be cement rendered internally to a smooth even surface coved at all intersections. The storage area will be constructed and finished to prevent absorption of liquids and odours and will be easily cleanable.
Doors	A close-fitting and self-closing door or gate operable from within the room must be fitted to all waste and recycling storage areas (rooms or bin bays). Doors/gates to the waste storage rooms must provide a minimum clearance of 1,200mm. At least one door or gate to the waste and recycling storage area must have sufficient dimensions to allow the entry and exit of waste containers of a capacity nominated for the development. Lightweight roller shutter-type doors or grilles should be considered for access to waste and recycling storage areas, as these do not impact on the available storage space. If these types of doors or grilles are used, the requirement for a close-fitting and self-closing door

Design aspect	Design provision
	remains, so that waste collectors can access the waste storage area other than through the roller door or grille.
Water	All waste and recycling rooms and communal bin areas must be provided with an adequate supply of cold water (excluding the waste service compartments located on residential floors of residential flat buildings). A floor waste basket trap connected to the sewer shall be provided within the bin room area. Storm water shall not be permitted to enter this floor waste trap.
Lighting	Adequate lighting will be provided for all rooms, controllable from a switch located both outside and inside the room. Lighting will ensure safe access to the area at night. Automatic light sensors may be installed for ease of manual handling during transfer of bins.
Pest control	The potential for vermin must be minimised. To achieve this, all waste and recycling awaiting collection is to be stored in a Council approved container (such as an MGB or bulk bin).
Ventilation	The waste storage rooms will be supplied with an approved system of mechanical exhaust ventilation, exhausting at a rate of 5L/s.m2 floor area, with a minimum rate of 100L/s minimum or permanent, unobstructed natural ventilation openings direct to the external air, not less than one-twentieth (1/20th) of the floor area. Mechanical exhaust systems shall comply with AS1668 and not cause any inconvenience, noise, or odour problem.
Safety	Smoke detectors will be fitted in accordance with AS1670 Automatic Fire Detection and Alarm Systems and connected to the fire prevention system of the building. All equipment will be protected from theft and vandalism.
Signage	Signs will be provided to demonstrate how to use the waste management system (including segregation of wastes for recycling), as well as appropriate safety signage. The different recycling and waste bins will be stored in their streams and will clearly identified and signed appropriately. Standard signage on how to use the waste management system and what materials are acceptable in the recycling system will be posted in all waste and recycling rooms, waste service compartments and communal bin areas, after the Occupation Certificate is issued but before the first users occupy the building. This signage is available from Council.
Refrigeration	Council may require waste storage to be refrigerated if sufficiently large quantities of food waste are generated on site and waste removal from this site is difficult due to location or long trading hours. Where a waste room is refrigerated the temperature must be maintained at or below at or below 50°C with all refrigeration equipment installed with sufficient space for cleaning.

5.1.5 Layout

The proposed central waste storage room design layout is shown below in Figure 4 below. The layout is designed so that there is an allowable gap of 15cm between each bin as well as between bins and walls.

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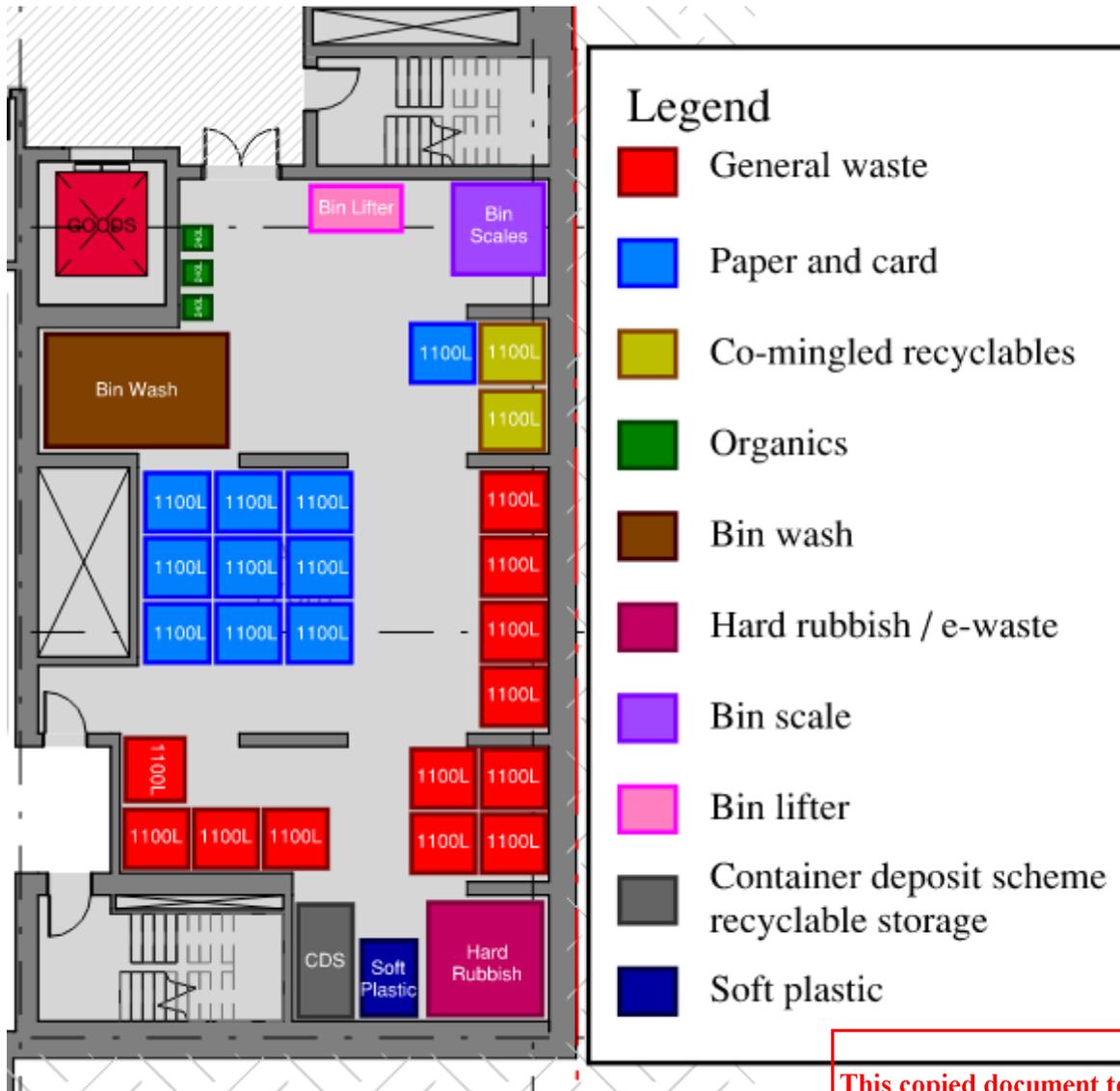


Figure 4 Waste room indicative layout.

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5.1.6 Amenity

The waste management systems and constructed elements of this development are designed and installed so as to enhance outcomes for building amenity. Any potential noise and odour to arise will be minimised. Specifically:

- **Visual aspects:** Any facet of the waste management system that is visible from outside the building must be in keeping with the dominant design of the remainder of the proposed development.
- **Noise:** The potential for noise must be minimised. Significant noise-generating waste management equipment will not be utilised in this development. Production of offensive noise will be avoided.
- **Odour:** The potential for odour must be minimised. Any putrescible waste awaiting collection will be stored in a Council approved container with permanently tight fitting lids and smooth, washable internal surfaces. All waste storage areas will be fitted with

mechanical vertical ventilation systems. Adequate mechanical ventilation and regular collection of waste will eliminate the risk of odour to building inhabitants and neighbours.

5.2 Temporary storage requirements

Each floor of the proposed development will house temporary storage bins. These bins will temporarily store daily generation of waste and recycling before being transported to the central waste storage room on the Basement 03 (B03) level via the goods lift for the buildings cleaners to empty into the respective bulk bins. Once emptied, the temporary storage bins are washed then returned to their respective levels.

The temporary storage requirements are listed below in Table 9.

Table 9 Temporary storage requirements

Level	General waste	Organic waste ¹⁴	Paper and card recycling	Comingled recycling	Total
B04	None.				
B03	None				
B02 ¹⁵	1 x 240 L	None	None	1 x 240 L	2 x 240 L
	0.5 m ²	None	None	0.5 m ²	1 m ²
B01 ¹⁶	1 x 240 L	None	None	1 x 240 L	2 x 240 L
	0.5 m ²	None	None	0.5 m ²	1 m ²
Ground Lobby	2 x 240 L	1 x 120 L	1 x 240 L	2 x 240 L	1 x 120 L, 5 x 240 L
	1 m ²	0.3 m ²	0.5 m ²	1 m ²	2.8 m ²
Mezzanine	1 x 240 L	1 x 120 L	1 x 240 L	1 x 240 L	1 x 120 L, 3 x 240 L
	1 m ²	0.3 m ²	1 m ²	1 m ²	3.3 m ²

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¹⁴ Instead of being emptied into bins stored in the central waste storage room, 120L organic waste bins will be swapped with empty 120L bins in the central storage room.

¹⁵ The proposed general waste and comingled recyclables bins will be located within the end of trip facilities. It is assumed organics and paper and card waste generation would be minimal in this area and no bins will be provided.

¹⁶ The proposed general waste and comingled recyclables bins will be located within bike store facilities. It is assumed organics and paper and card waste generation would be minimal in this area and no bins will be provided.

Level	General waste	Organic waste ¹⁴	Paper and card recycling	Co-mingled recycling	Total
01 to 36	2 x 240 L	1 x 120 L	1 x 240 L	2 x 240 L	1 x 120 L, 5 x 240 L
	1 m ²	0.3 m ²	0.5 m ²	1 m ²	2.7 m ²
37	1 x 240 L	1 x 120 L	1 x 240 L	1 x 240 L	1 x 120 L, 3 x 240 L
	1 m ²	0.3 m ²	1 m ²	1 m ²	3.3 m ²
38	None				

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6 Waste management system

The waste management system identifies the reticulation of waste from the point of local disposal to the central waste room and collection point. In addition, responsibilities associated with waste management are outlined. All contracts with building managers, tenants and cleaners should clearly outline the waste management and collection system for allocating waste management responsibilities. The proposed operational Waste Management System (WMS) is summarised in Table 10 below.

Table 10 Proposed operational waste management system

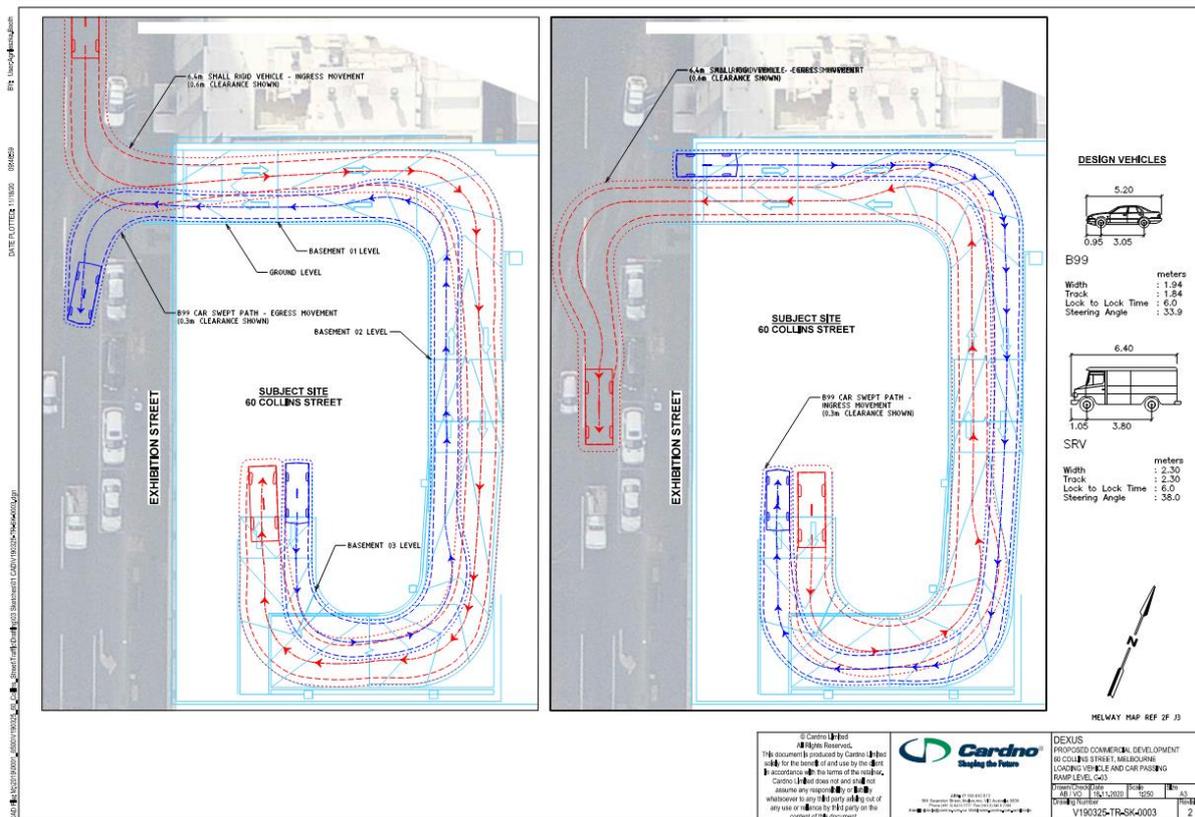
Service type	Waste stream	Local disposal	Transfer to central waste storage room	Central waste room	Transfer to collection point	Collection point
Routine	General waste	On-floor general waste bins emptied into daily temporary bins located on each floor each night by cleaners.	Cleaners (using trolleys) transfer temporary bins for general waste, co-mingled recycling and paper/card recycling to central waste storage room using the goods lift and empty contents into respective bins in the central waste storage room using the bin lift. The empty temporary bins are then washed and returned to their respective floors.	Central waste storage room on the Basement 03 (B03) level.	Nominated cleaning staff/building management transfer waste receptacles from central waste room on the Basement 03 (B03) level, to collection point adjacent as part of the loading dock also on the Basement 03 (B03) level.	Waste contractors shall collect waste from the collection point in waste collection vehicles. The loading dock is located on the Basement 03 (B03) level, accessed via the driveway entrance on Exhibition Street. Collection vehicles will follow the ramped access down around and into the loading dock area on the Basement 03 (B03) level in a forward direction. Vehicles will then use the area at the end of the driveway to reverse into the loading dock and collect the waste from the collection point, before exiting via the ramped driveway in a forward direction.
Routine	Organic waste		Organic waste temporary bins from the ground lobby and mezzanine levels are swapped with empty organic waste bins in the central waste storage room and taken back to their respective floors. All other organic waste temporary bins from all other levels will be lined with compostable liners and will be emptied into the remaining empty organic waste storage bin by hand. As these levels are expected to generate < 10L/day of organic waste each, this should be manageable by cleaning staff.			
Routine	Co-mingled recycling					
Routine	Paper and card recycling					
On-call	Hard / bulky waste, E – waste, Sanitary waste, Soft Plastic, and Recyclable containers (container deposit scheme)	Within each tenancy as required	Transferred to the central waste storage room with the exception of sanitary waste which is collected from the point of generation by a specialised waste collection contractor.	Central waste storage room on the Basement 03 (B03) level.	Transferred as required by cleaners when on-call waste contractors arrive to collect.	As above.

7 Collection

7.1 Location and access

The central room for storing waste and recycling will be located on the Basement 03 (B03) level. This position is convenient for staff and facilities management. Prior to collection, nominated staff/building management will move waste and recycling receptacles from the central waste storage room to the collection point in the loading zone also on the Basement 03 (B03) level, where they will await collection.

Waste contractors shall collect waste from the collection point in waste collection vehicles. The loading dock is located on the Basement 03 (B03) level, accessed via the driveway entrance on Exhibition Street. Collection vehicles will follow the ramped access down around and into the loading dock area on the Basement 03 (B03) level in a forward direction. Vehicles will then use the area at the end of the driveway to reverse into the loading dock and collect the waste from the collection point, before exiting via the ramped driveway in a forward direction. The swept path of the Small Rigid Vehicle (SRV) rear loading collection vehicle is as indicated in Figure 5 below.



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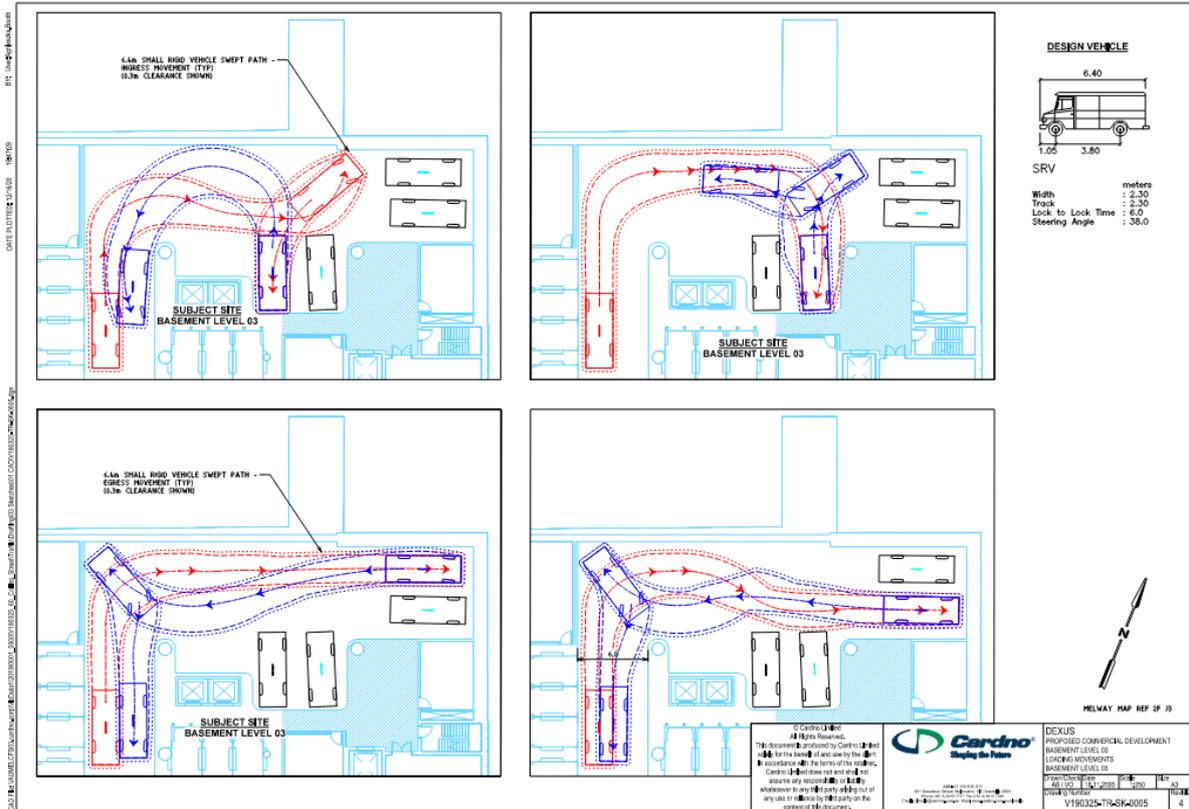


Figure 5 Swept path of SRV rear loading collection vehicle.

The nominated collection point where the waste loading operations occur will be on a level surface away from slopes or vehicle ramps. In addition to this, the path where the waste contractor will transport the bins from the central waste storage room to the collection vehicle will be free of steps, kerbs, and other uneven surfaces.

7.2 Frequency

Waste collection services for each waste stream are yet to be confirmed. Written evidence will be provided and held on site at all times of the contractor's valid and current licence for waste and recycling collection and disposal.

Collection frequency assumptions are as follows (based on a 5day working week):

- Collection of co-mingled recycling and paper/cardboard recycling is to occur every second day.
- Collection of general waste is to occur every second day.
- Collection of organic waste is to occur every day.
- Collection of other waste streams (e.g. hard / bulky waste, e-waste, soft plastic, and recyclable containers⁴ etc.) would be less frequent. Collection frequency will be at the discretion of the separate waste service providers collecting and treating these waste streams and would be arranged with facilities management as required.

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Note: Waste collection frequencies can be adjusted once the building is in operation and actual waste generation rates can be observed.

7.3 Collection vehicles

The route for waste contractor access to the internal loading zone is via the access driveway from Exhibition Street. The loading zone of the development must cater for the size of a SRV loading waste service provider collection vehicle. At the time of writing, a specific private waste contractor has not been appointed. Therefore, vehicle access to the basement will be designed according to the indicative SRV rear loading waste collection vehicle specifications outlined in Table 11 below.

Table 11 SRV rear loading collection indicative vehicle specifications for MGBs

Vehicle Specification	Measurement
Length overall	6.4 m
Width overall	2.3 m
Operational height	3.5 m
Travel height	3.5 m

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8 Next steps

This OWMP forms a framework to implement best practice for waste management across all design and planning stages. The waste management approach supports the Green Star requirements for the project to enhance outcomes for waste minimisation, reuse, and recycling.

If planning approval is granted for the proposed development, this OWMP will:

1. Inform the development of associated Green Star credit requirements.
2. Ensure that detailed design and fit-out of the building is consistent with best practice standards and plans for waste management.
3. Inform all plans and procedures for operational waste management.

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